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OIL WORLD

and Petroleum Industry

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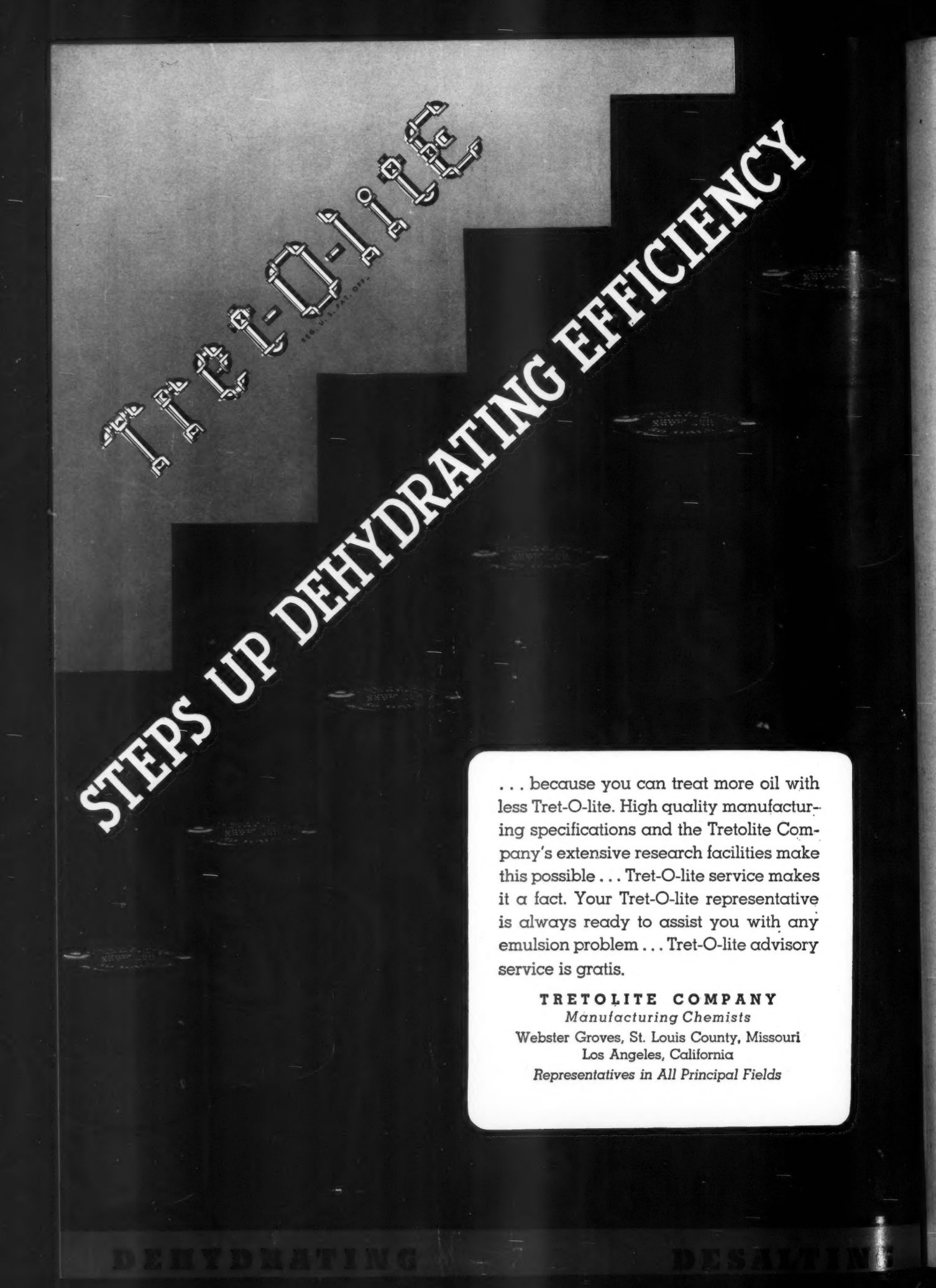
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OIL WORLD
and Petroleum Industry

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FEBRUARY 1942
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IN THIS ISSUE

Factors Governing February Allocation Schedules 3

Petroleum Coordinator Gaining Many Friends 8

Ickes Before Cole Committee 9

Petroleum Industry War Council Urges Protection of Reserves 11

Amendment No. 3 of Conservation Order M-68 14

Laugh This Off 16

Los Angeles Basin Development 17

San Joaquin Valley Development 21

Coastal District Development 25

Business Directory 32

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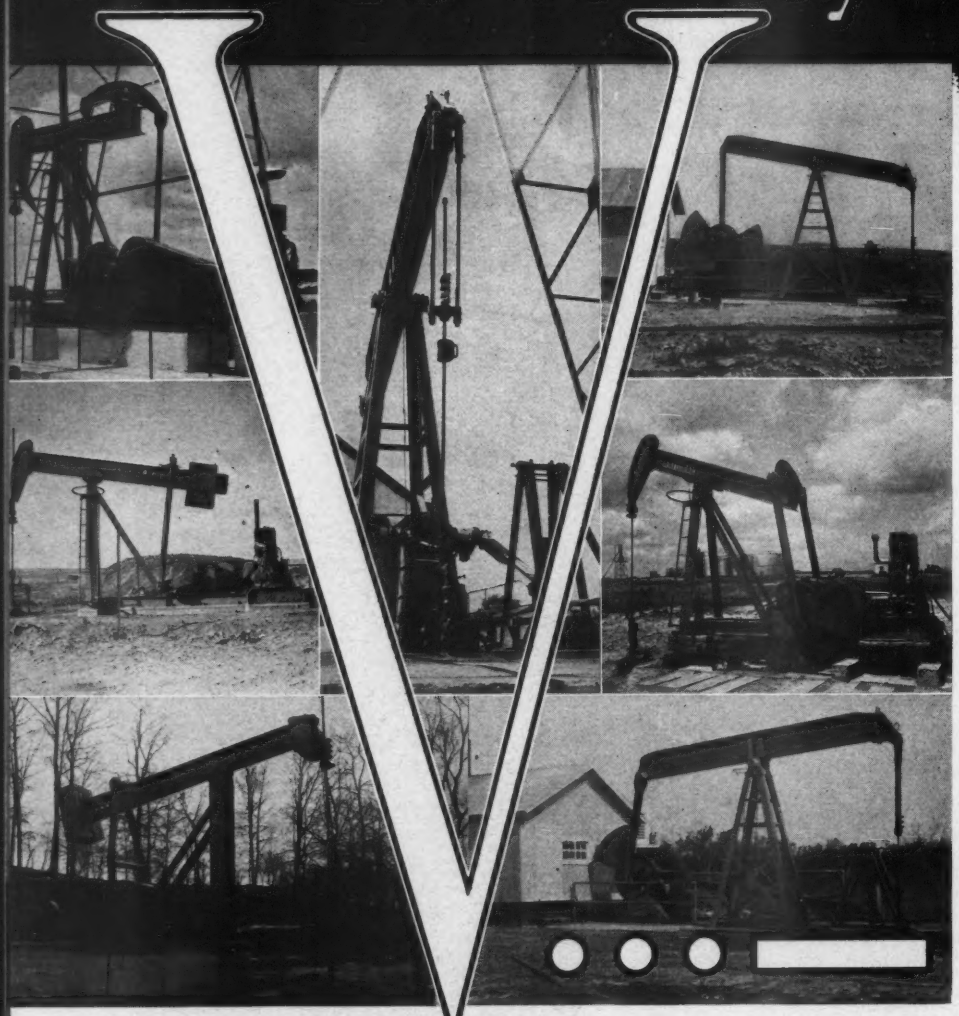
Vital To Victory



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API Walking Beam Rating, Inches	3200	4300	6725	8900	8900	9125	9125	12750
Peak Torque Rating, Inch lbs. at 20 SPM	6360	11050	24300	48200	48200	57200	57200	76500
Overall Gear Ratio	20.9	29.5	29.2	29.2	29.2	29.8	29.8	29.8
Max. Polished Rod Stroke, Inches	16	20	28	34	34	42	42	48

*Equipped with National Eccentric Cranks and Counterweights—other sizes have beam type Counterweights.

TYPES FOR MEDIUM TO HEAVIEST SERVICE

BRIEF SPECIFICATIONS

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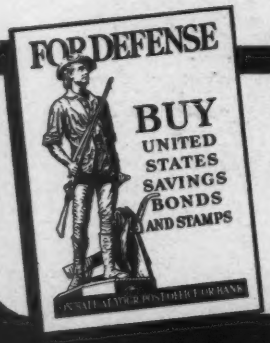
Double Reduction Types	TU464-HD46TB	TU683-HD60T	TU683-HD80T	TU803-HD80T	
API Walking Beam Rating, lbs.	15000	18850	18750	24000	24000
Single Reduction Type: Peak Torque Rating, Inch lbs. at 20 SPM	124000	170000	238000	238000	303000
Overall Gear Ratio	10.2	9.7	9.4	9.4	9.32
Double Reduction Type: Peak Torque Rating, Inch lbs. at 20 SPM	113000	139000	200000	200000	—
Overall Gear Ratio	30.8	26.8	28.3	28.3	—
Maximum Polished Rod Stroke, Inches	54	54	64	72	72

All the above types have National Eccentric Cranks and Counterweights.

For further information on National Unit Pumpers get in touch with your nearest National representative.



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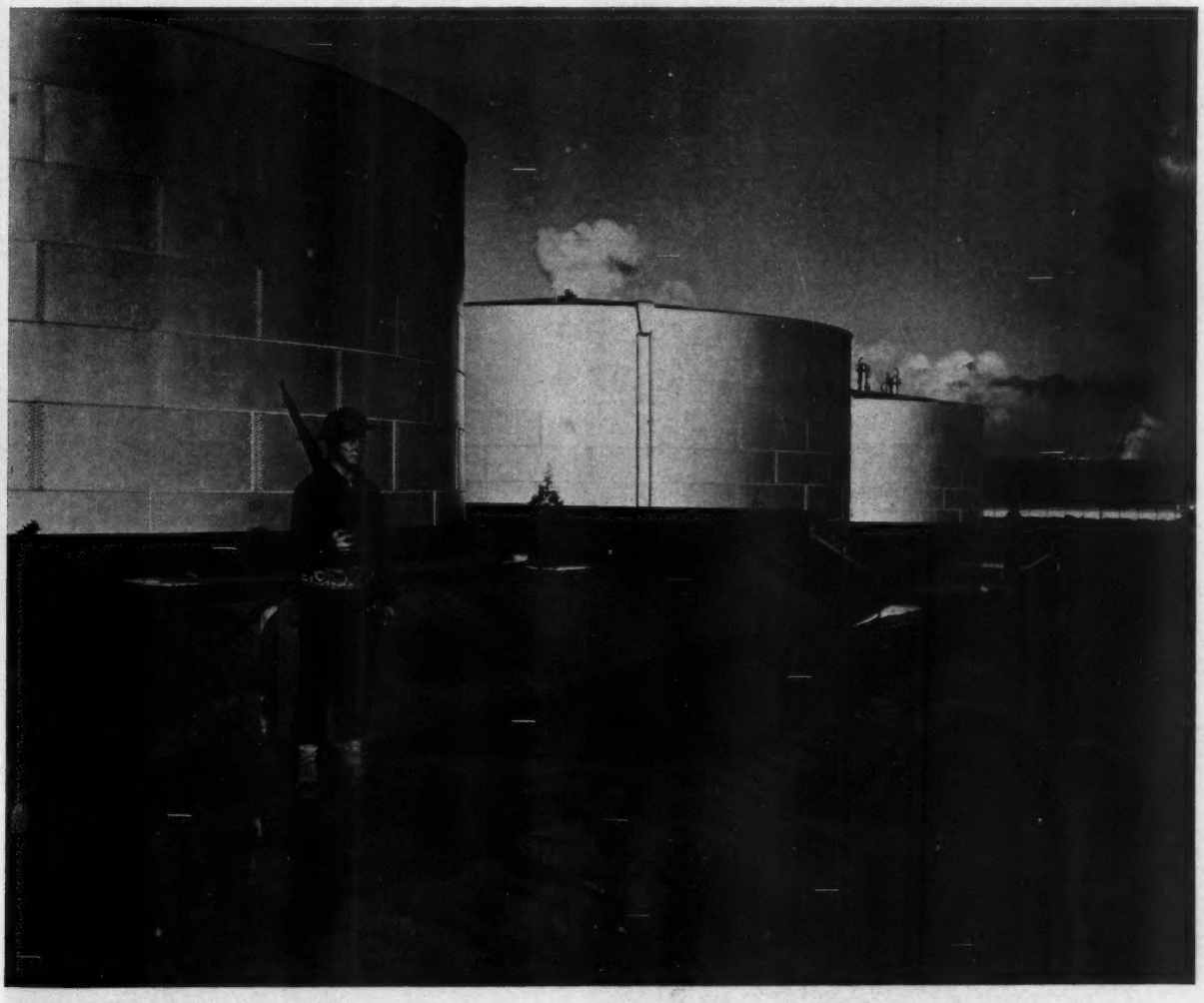
Factors Governing February Allocations

Show Considerable Study

The method of allocating February production and the distribution of oil to fields and pools in California were approved by the Office of Petroleum Coordinator on February 20, and were made effective as of that day and for the remaining eight days of the month.

The February schedule is the first one approved since the basic production plan for California was approved by Petroleum Coordinator Ickes on December 11, 1941, and is the result of constant work by the production Committee for District 5, the California Conservation Committee, the Allocation Committee, and the Engineering Committee, all of which are subcommittees of the district production committee. The method developed for February is based upon the production plan for California, which in addition to being approved by Coordinator Ickes and issued by him as Recommendation No. 19, also secured approval of the Department of Justice. The plan basically provides that allocation schedules shall be founded upon approved engineering principles of oil production to the end that the greatest ultimate recovery can be obtained from each field and pool, but also requires that modifications be made when it is found that such schedules will result either in the addition of oil to storage or in an insufficient supply of oil for war purposes. It also requires that the type and kind of oil produced be considered in relation to the need for the particular kind; that gravities, gas/oil ratios, demand for natural gas and for its various components, as well as transportation and other factors, be taken into consideration in determining the final allocation.

The method developed for February gives consideration to all of the factors required by Recommendation No. 19, including maximum efficient rates of production, minimum rates, natural gas production, both as such and with its concurrent iso-butane production, maintenance of continuity of production from stripper wells,



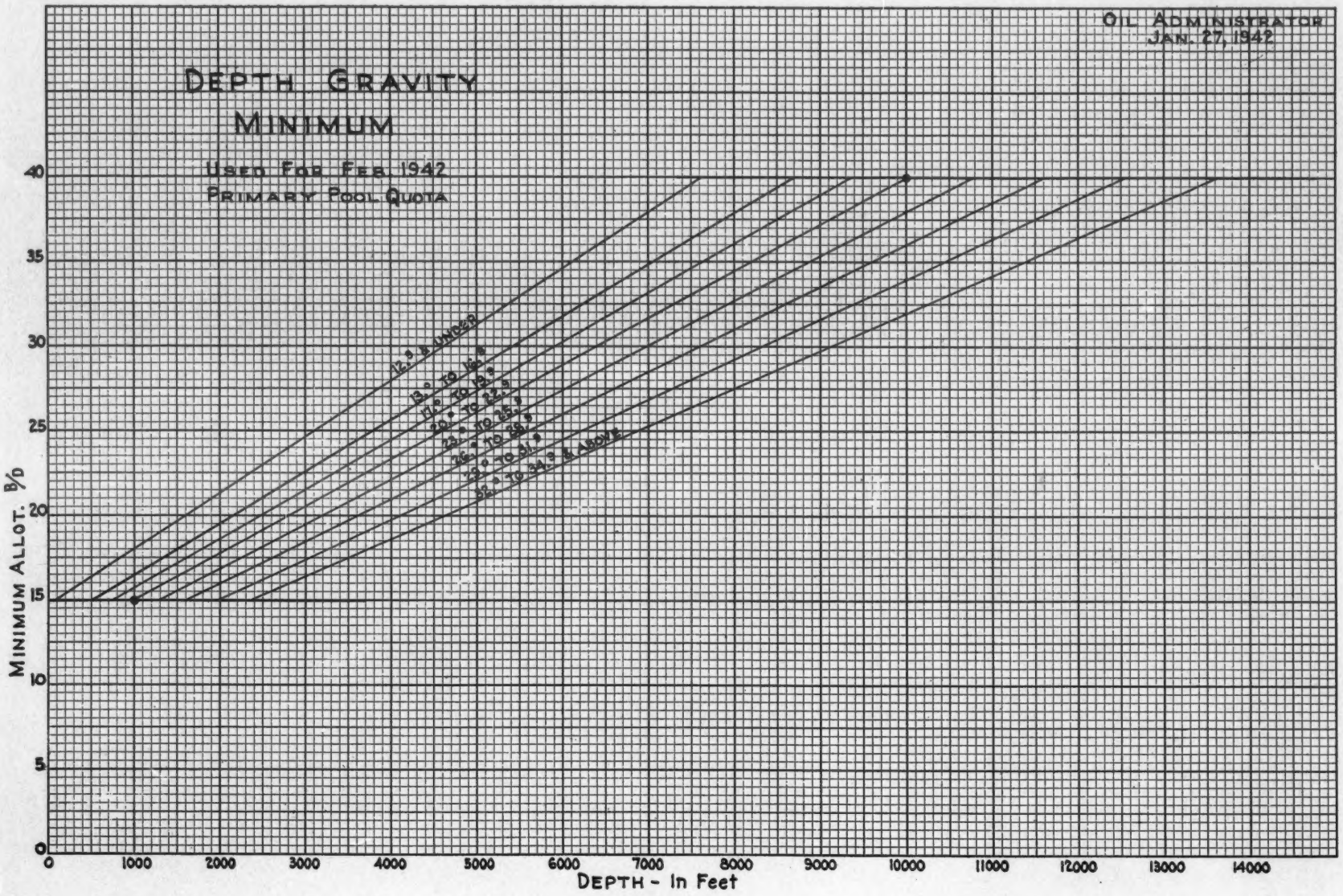
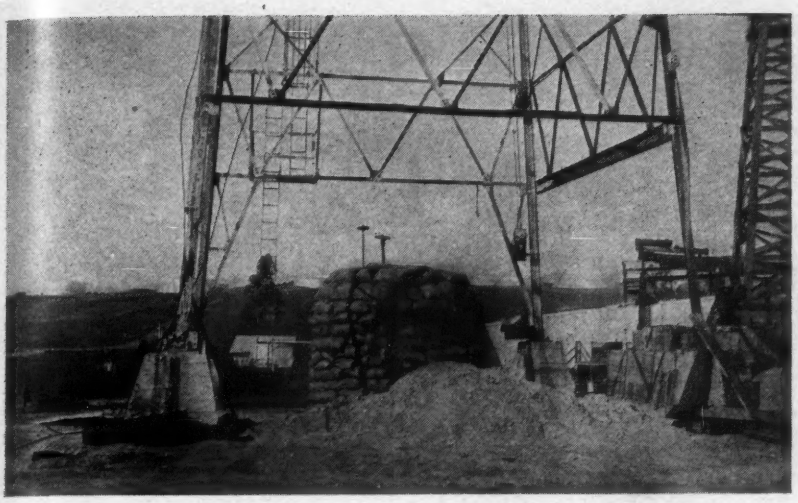


Chart I

CALIFORNIA OIL WORLD AND PETROLEUM INDUSTRY, SECOND ISSUE, FEBRUARY, 1942



It will take a direct hit to wreck this christmas tree.

gravities and kinds of oil, and transportation dislocations as well as demands for particular types of oil.

The first step taken by the production committee through its engineering subcommittee was to determine the maximum efficient rate of production for each field and pool in the state. This determination was based upon the factors required by Recommendation No. 19, which included formation pressures, water encroachment, gas/oil ratios, and others. The maximum efficient rate thus calculated for each field and pool resulted in a state total of 900,476 barrels per day.

The committee also determined the minimum rate of production for each field and pool, below which continuity of production would be jeopardized. This minimum rate was based upon the two factors of average depth of wells and average gravity of oil produced, as shown in the "Depth Gravity Chart," (Chart I). The pool minimum was determined from the sum of the average well minimums for all wells that could produce oil in excess of the minimum, plus the actual producing capacity of all wells which could not produce the minimum, the total for the state being 273,958 barrels per day.

The allocation of 273,958 barrels of production per day on the basis

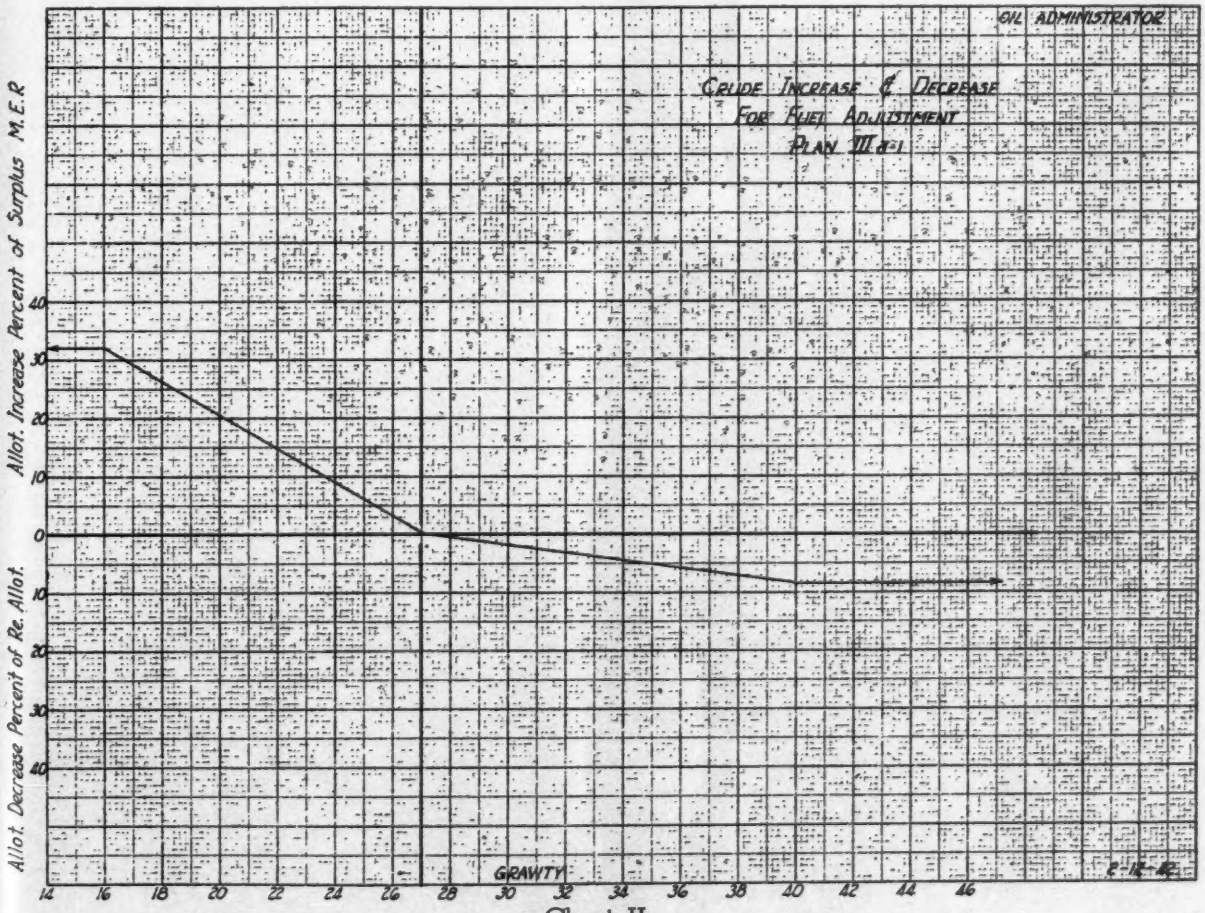


Chart II

Electric slow speed pumping reduces production costs!

The three-horsepower electric motor operating this pump on Signal Hill well replaced a 40 horsepower pumping unit.

1. LOWER FIRST COST. An electric motor is a simple piece of equipment, compact, easy to install.

2. LOW MAINTENANCE. Slow speed pumping means less wear—longer life, steadier service, fewer shut-downs for repairs—for all parts of equipment concerned.

3. EASE OF OPERATION. Push button control, minimum attention and care, unequaled operating economy.

4. GREATER EFFICIENCY. Geared to the capacity of the well and no more, slow speed pumping does not waste power in lifting water and gas.

Investigate the possibilities of electric slow speed pumping from the economy standpoint. Phone your Edison Office.

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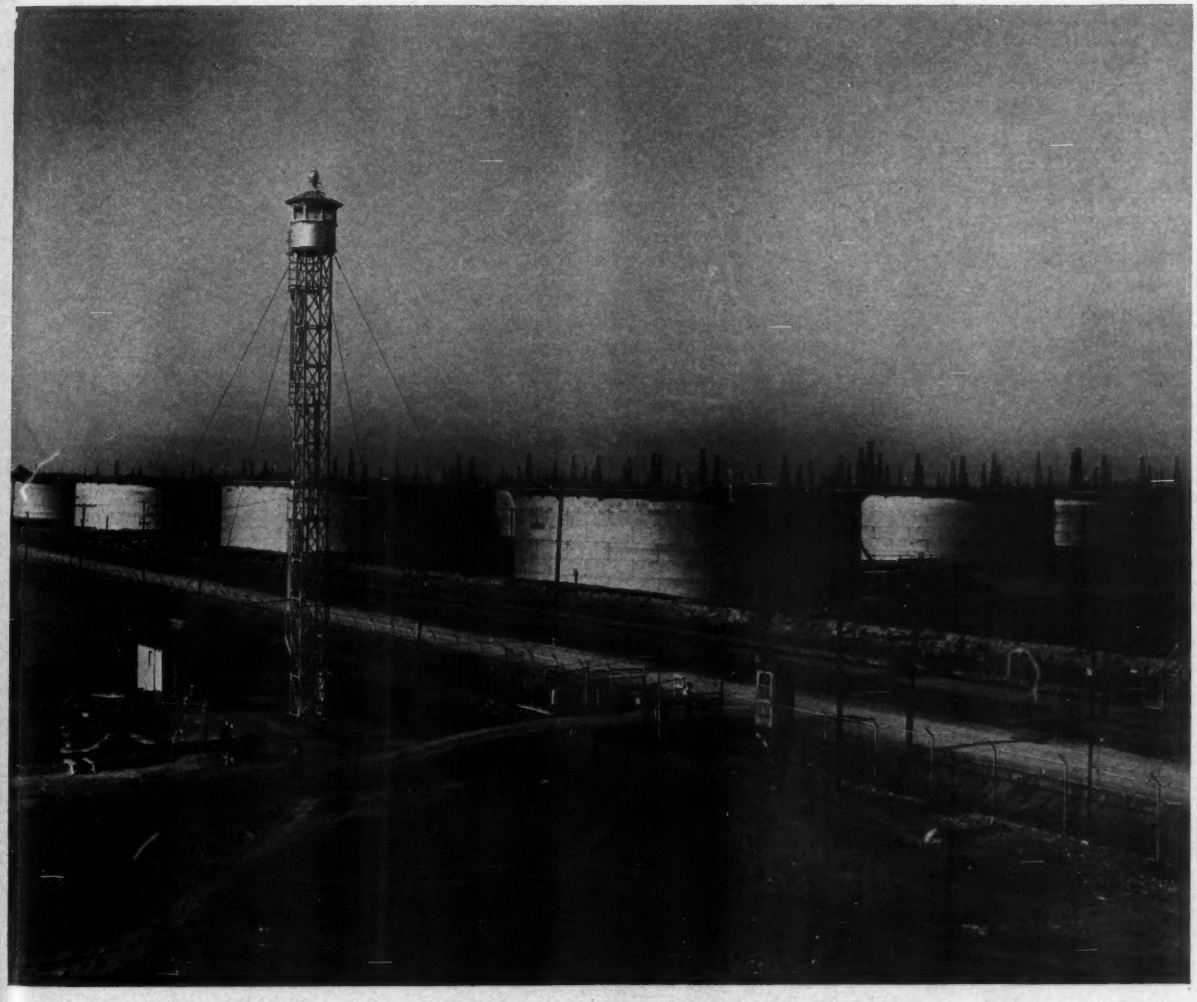
of minimum rates of production left a remaining rate of 626,518 barrels per day (the difference between the minimum rate and the maximum efficient rate) to be reduced to 353,042 barrels per day, the difference between the minimum rate and the net allocation of 627,000 barrels per day remaining out of the 632,300-barrel figure established by the Petroleum Coordinator, after 5,300 barrels per day had been reserved for new wells, recompletions, etc., during the month.

In order to arrive at an equitable distribution of this remaining rate, a preliminary primary quota was calculated for each field by the Allocation Committee, which applied a power factor to the average remaining rate per well, further modified by a percentage figure. When the preliminary primary quota thus determined was found to be 90 per cent or more of the maximum efficient rate, the pool was classified as a stripper pool and was exempt from any restriction or curtailment of production, except that to prevent water encroachment and consequent loss of recoverable oil, no well in any exempt pool was allocated more than 75 barrels per day. Ninety pools were thus exempt from curtailment.

Individual wells also are eliminated from the curtailment schedule when their computed quotas are found to be 90 per cent or more of their maximum efficient rates, no matter where such wells may be located. Present calculations indicate that a total of 12,000 wells was relieved of curtailment either because they were in stripper pools or because they were marginal under the well minimum formula.

When stripper fields and wells had been eliminated from curtailment, 5,300 barrels of allocation was reserved for new, recompleted, and resumed wells during the month, so that the actual quota distributed to existing wells in February was 627,000 barrels. From this figure was deducted the amount allocated to stripper fields and that allocated on the basis of minimum rates of production. A power factor was applied to the remaining rates, to derive the remaining allotments, and the primary quota is the sum of these remaining allotments plus the minimum rates.

Primary quotas were further mod-



Oil company observation towers aid in spotting saboteurs.

ified to meet the increased demand for fuel oil without reduction of light crude production to such an extent as to cause a deficiency in natural gas and iso-butane production. These modifications were applied in accordance with the "Crude Quality Adjustment" chart (Chart II), which shows the percentage decrease in allocation to crude of 27 gravity and above, and the percentage increase in allocation to crude of less than 27 gravity.

A further modification of the primary quota was made as to two fields where dislocation of transportation has affected the delivery of crude, the total reduction, which was distributed to other fields, being 10,868 barrels per day.

Final pool quotas are the quotas established after all adjustments were made. These quotas are distributed to individual wells within the pools on a basis consistent with that used to determine pool quotas, except that where operators in a given field or pool have developed an intra-field program consistent with Recommendation No. 19 and approved by the Production Committee, such specific plans are put into effect.

Petroleum Coordinator Gaining Friends

The monthly trips to Washington being taken by members of the Petroleum Industry War Council, which is made up of 72 oil industry executives, trade association presidents, and members of the various district committees under the organization of the Office of Petroleum Coordinator, have just about convinced those men that the Coordinator's Office is the best friend the industry has in Washington, according to E. E. Pyles, chairman of the Production Committee for District No. 5.

In a talk before a meeting of approximately 200 San Joaquin Valley operators at Hotel El Tejon in Bakersfield last week, which he attended in response to requests of Valley oil men, Mr. Pyles outlined some of the war problems faced by the industry and told of some of the difficulties faced by the district production committee in working out allocation schedules for California.

"These oil men, who come from all sections of the country, had usually been going to Washington ready to rip the government to pieces," Mr. Pyles said, "But after full and free discussions between the Council and members of the Coordinator's staff, they have realized that the industry faces tremendous problems and that the Coordinator's office is doing its best to help solve them. The same men come away from the meetings with an unspoken but fully realized knowledge that the whole industry must be made to recognize the seriousness of the situation, and with the knowledge that members of the Council must help to bring the industry to that realization."

For example, criticism of the Coordinator's office because of the provisions of Conservation Order M-68 has been common, Mr. Pyles said, but the Coordinator has no authority over the War Production Board, which has final determination as to

E. E. Pyles

how M-68 will be administered, what its provisions will be, and how and where exceptions will be granted. The War Production Board takes the position, Mr. Pyles reported, that its first job is to furnish steel for ships, tanks, guns, and ammunition, and that even though some drilling must be allowed if the oil industry is to continue to supply sufficient products to fuel and lubricate the war machine, its position is not acute, and therefore it is not necessary to allocate large steel tonnage to the oil industry until after the pressing needs of other industries have been met.

"Some of the reason for this position of the War Production Board is traceable directly to the oil industry," Mr. Pyles said. "The industry has reported that it had a 19-billion barrel reserve, and the War Production Board cannot be made to believe that while such a reserve exists, the industry is in dire need of steel."

In connection with M-68, Mr. Pyles said that the district production committee would have nothing to do with passing upon applications for exceptions nor with its interpretation or enforcement. He advised the producers that the War Production Board was the final authority, and that the Office of Petroleum Coordinator stood in an advisory position to the War Production Board, but that the industry committees did not come into the picture.

Mr. Pyles also stressed the need of collecting all scrap iron and steel, and seeing that it got into the hands of steel companies. At least two California companies are now operating at only 65 per cent of capacity because of a shortage of scrap, and one of them reports that its operating schedule will have to be still further reduced by early fall if more scrap is not made available.

In discussing some of the difficulties faced by the district production committee in working out an allocation plan for California, Mr. Pyles

Another Turnbull Canyon wildcat.

said that one of the problems was that of furnishing sufficient production of heavy crude to make into fuel oil, without reducing the production of natural gas to such an extent that there would be a shortage of the gas itself as well as of its isobutane content. It is necessary, he explained, to keep the total allocation within the figure established by the Petroleum Coordinator, so that adjustments for special needs must be made within the total figure set. At the same time, excessive production of any type of crude for which the demand was not equal to the supply, so that it would go into storage, must be avoided, since the basic production plan for the state, Recommendation No. 19 of the Coordinator, requires that stocks be held to economic levels.

Balancing these various requirements presented many difficulties, Mr. Pyles said, but the allocation method for February was finally worked out and sent to Washington for approval. It is the culmination of constant work by the district production committee, the conservation committee, the allocation committee, and the engineering committee—all of the latter subcommittees of the production committee — since the fundamental plan was approved by the Coordinator on Dec. 11, 1941, and it has since been approved and made effective as of Feb. 20, 1942.

Mr. Pyles stressed the fact that the nation is in an all-out war, and that it is up to the oil industry to do its part. He said that while realization of the serious condition facing the nation may be slow to come to some people, those in Washington—industry men and government men alike—see that the United States is in the most delicate situation that it has ever faced in its history.

"War problems are hard problems; they will cause considerable grief among many operators. Some will be affected more than others, but all of you must be prepared to help work them out. With the cooperation of every oil man and of those in allied industries, all of the problems can be solved, no matter how hard they seem to be. The oil industry faces a great opportunity. The present organization of the Office of Petroleum Coordinator, the Petroleum Industry War Council, the district committees, gives the industry a chance to reach its own solutions. Oil men can face the facts and reach these solutions willingly, or they can blind themselves to the facts and find that someone else is making the decisions. The industry has its choice, and can decide for itself how it wants the solutions to be reached," Mr. Pyles said.

Ickes Appears Before Cole Committee

Petroleum Coordinator Harold L. Ickes was the only witness before the Oil Subcommittee of the House of Representatives Committee on Interstate and Foreign Commerce Feb. 17.

Mr. Ickes praised the oil industry for its cooperation with his office and especially the industry's success in bringing oil by tank car into the East Coast industry.

He said that he intends to ask the War Production Board to reconsider the application for priorities for the 24-inch pipe line from Texas to the East Coast.

The oil industry has recommended in a report to the Coordinator, which he filed the following as methods of solving the acute shortage situation facing East Coast consumers unless consumption is curtailed:

1. 15 per cent curtailment in the consumption of petroleum products from Feb. 15 until April 1. This would first be done by asking the motoring public to voluntarily curtail consumption and to conserve supplies. If this is not satisfactory then rationing by coupon books would be considered.

2. Night and Sunday closing of filling stations.

3. Transfer of clean tankers to the fuel oil service for consideration of the necessity of ordering manufacturing plants now burning heavy fuel oil to convert the use of coal where they can do so.

Congressman Wolverton discussed with Mr. Ickes the program of having the Department of Justice approve certain action by the oil companies. The Coordinator said that "very properly the industry does not want to do anything which might afterwards be interpreted as violating the anti-trust laws". He then said that at the first meeting he held with the industry he had asked the Attorney General to set forth the views of the Department of Justice, and since then he has asked for a clearance from the Attorney

General on all activities which require cooperative action. Mr. Wolverton said that he was interested from the standpoint of whether legislation might be desirable and suggested that it is perhaps "better for Congress to say that something can be done rather than to have government officials say that they will not prosecute, or that an industry can or cannot violate an act of Congress".

Mr. Ickes said that he had made no secret of his feeling, that it is "a poor public policy to be waving the anti-trust laws over the head of the oil industry constantly. That a better use of oil resources could be achieved". He added "so far as the oil industry is concerned, it has special phases which ought to take it out of the Sherman Anti-Trust Act, and that can be done only by an act of Congress". Mr. Wolverton said that he did not want his remarks to be construed as meaning that he thinks there should be any basic change in the anti-trust laws, or criticism of officials for having acted in the present emergency, but he concluded that he is impressed with the idea "that there might be times when there would be a hesitancy on the part of officials or representatives of the companies affected to enter into arrangements such as have been made in the past, which would not exist if Congress made it possible for such contracts to be entered into". In a response in another question by Mr. Wolverton, Mr. Ickes said that he did not think the cooperation of the committees appointed by the industry or the results obtained under the present arrangement could be improved by legislation. He did agree that the industry and government officials would be more comfortable if there were legislation definitely approving cooperative action.

Mr. Ickes in response to a question from Mr. Wolverton said that he did not have any legislation to recommend at this time, that one of the things he likes about the present arrangement under which the oil industry and his office is cooperating, is that it has no compulsion about it. Mr. Wolverton said that the results of the Coordinator's office and the industry were very gratifying and extended his compliments to both.

Congressman Lea also said that it was refreshing to see the cooperation between the industry and the Coordinator and that both had done a good job to date. Mr. Ickes commented that he could not have done the job without the industry.

Mr. Ickes specifically disclaimed any desire to handle the rationing of the gasoline if it became necessary and said that Mr. Henderson is welcome to the task.

Synopsis of Statement

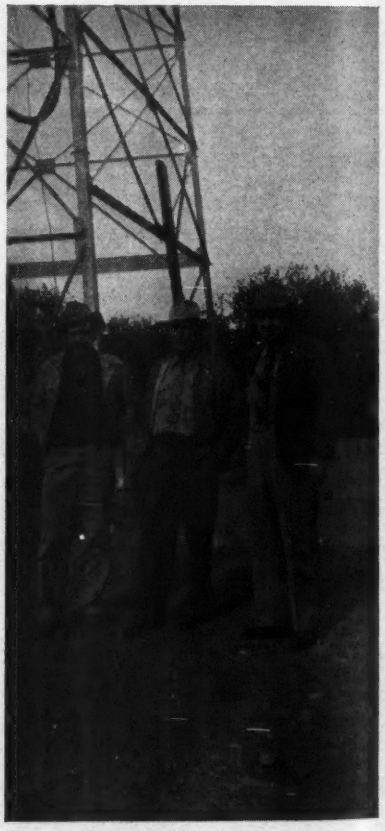
In his prepared statement, Mr. Ickes said that since Dec. 13, 1941, when stocks of crude, heavy oil, light heating oil, and gasoline amounted to 65.8 million barrels (which was 8.4 million above the same date a year ago) stocks have gone down without interruption so that by Jan. 17, the excess over last year was but 482,000 barrels and that by Feb. 7, stocks had gone down to 5.7 million barrels below the stocks of supplies available on the East Coast a year ago. Total stocks of the four products declined by 2.1 million barrels during the week ending Feb. 7. Crude oil fell off during the week 1,067,000 barrels; gasoline went down 193,000 barrels; light heating oils, 644,000 barrels and heavy fuel oil, 216,000 barrels.

He presented a written statement from the heads of the principle oil companies in the eastern area who came to Washington at his request a week ago and discussed the East Coast situation. In reviewing the inventory situation as of Jan. 31 he called attention to the fact that diversions, and sinkings of tankers and delays brought about by war conditions have resulted in the reduction of East Coast stocks by about 11.5 million barrels during the month of January (or more than 3 times the normal rate for this month).

The report emphasizes that daily consumption in February and March averages only slightly less than in January, which is the reason why steps are necessary now to bring about positive curtailment in order to prevent the same drop in stocks during February and March as occurred in January.

Citing the fact that the industry is using more tank cars than at the peak of the movement last fall, the report requests the railroads be urged to speed up tank car turnaround and that tank car users in Districts 2 and 3 be asked to make available about 10% of their cars to be used in this emergency movement.

Mr. Ickes said that full use of tank cars on the West Coast was being insisted upon by his office, but that comparable results cannot be expected in that area. He emphasized that regardless of how fully or efficiently tank cars and



Bell View Oil Synd. No. 1 failed to find the shallow tar productive at Rideout Heights. Disappointed are Supt. Jack Beckham, Geologist Vernon King, and Hollywood Oil Co.'s Bill Hendricks.

other forms of overland transportation are used they cannot do all the job that would normally be done by tankers. Even in the peak week, when 223,000 barrels of oil were brought in by tank cars, this amount was only about 14% of the total demand. He called attention to the approval which the Coordinator obtained from the Department of Justice for companies on both coasts to pool and exchange products (Recommendations 29 and 33).

Mr. Ickes said that he had often been declared an alarmist and pessimist because he foresaw last year that there would be a shortage of oil and reiterated that he believed it is the duty of the Coordinator's office to look ahead adding that he himself had foreseen "the distinct possibility that our own tankers along our own coast might be sent to the bottom by well-directed torpedoes." He said that it was for this reason that he had recommended strongly the building of the proposed pipe line that would have carried upwards of 300,000 barrels of crude oil a day from the Mid-Continent and Texas fields to the New York-Philadelphia refining area. He said this line should have been built and in operation before a Petroleum Coordinatorship was set up by the President, since more than twenty months ago, "after a study by the experts of the Department of the Interior, I reported that, while there was adequate transportation of petroleum to the East Coast at that time, there would not be adequate transportation in the event of an emergency. For this reason, I suggested that one or two pipe lines be built." He said that no action was taken on this and by the time the matter came before SPAB there were so many demands for steel that it was impossible to secure it for this project.

He referred to the completed Portland - Montreal, Southeastern and Plantation pipe lines and said "I know that you gentlemen derive considerable satisfaction from knowing that the completion of all of these lines was made possible by the Cole Pipeline Act, which your Committee sponsored and which my office strongly supported." He referred briefly to the recommendations of his office for increasing the production of 100 octane gasoline.

Mr. Ickes said that he believed "that the industry very generally now recognizes that the Petroleum Coordinator has no desire to take over the oil business. At the very outset I announced that it was no concern of mine whether a business was great or small. I have no wish to impinge upon a jurisdiction that is exclusively that of Congress. I also made it known that it would be my effort so to handle this job that the competitive position of no one in the industry would be changed as the result of this emergency activity. But that there have been some uncertainties in the industry, especially on the part of those who are least prepared to sail his industrial craft in doubtful weather, I am, of course, aware. However, I want to assure every man in the oil business that if inequities occur as the result of any action or failure to act on the part of the coordinator, I stand prepared at any time to do all within my power to redress the grievance."

Mr. Ickes said that before acting on the oil industry's recommendation for night and Sunday closing of filling stations, his office is making a survey of the situation. He emphasized that Sunday closing would not mean a denial of the motorist's privilege of using his car on that day. He added "Sunday driving is sometimes more essential than Monday driving."

Petroleum Industry War Council Urges Protection of Crude Reserves

The following has been released by the Petroleum Industry War Council:

Recommended measures for protecting the Nation's crude oil reserves during the war and thereafter were made public by the Petroleum Industry War Council. The Council has submitted the program to the Office of Petroleum Coordinator.

It was prepared by a committee consisting of O. D. Donnell, chairman, Frank Buttram, J. F. Drake, Walter S. Hallanan, William F. Humphrey, John M. Lovejoy, Charles P. McGaha, Lawrence Vander Leck and H. C. Wiess.

The committee gave considerable attention to the question of small wells, and to means of preventing their abandonment.

The report approved by the Council and made public by William R. Boyd, Jr., chairman, submitted the following conclusions:

1. That additions to the Nation's known oil reserves have shown a declining trend for the past three or four years.
2. That new reserves are needed in order to meet indicated consumptive demand without waste.
3. That there is an indicated trend of increased abandonment of small wells.
4. That an increased number of wells must be drilled in order to discover the same amount of oil as formerly.
5. That premiums granted discovery wells in the form of increased allowable are an incentive to exploration.
6. That adequate prices of crude oil, which give consideration to overall costs, are essential to exploration incentive and to extend the economic life of small wells.
7. That retention of present statutory percentage depletion allowance is essential to the above objectives.

Prefacing its report, the committee commented:

"The magnitude of the war effort forced upon the United States by hostile action of an aggressor nation allied with other nations in an attempt to subjugate the world to their debased ideology, is so vast it commands the fullest utilization of all essential raw materials.

"It has been stated that in the first World War the United States and its allies 'floated to victory on a sea of oil.' Today the need for oil for victory is even more necessary.

"The coordination of the activities of all individuals and operating units of the petroleum industry into a unified effective whole with the purpose of providing our armed forces with an abundance of every petroleum need necessary to the victorious conclusion of this struggle, is not only desirable, but essential.

"Fortunately, our country faces the present gigantic need of oil for armament and for the defense economy, well provided with proved petroleum reserves and daily productive capacity.

"While the total crude oil reserves of the country are estimated to be the highest ever recorded, the declining rate of discovery of new oil over the past few years, if continued, will make it increasingly difficult to retain them at the levels necessary to supply without waste of reservoir energy, the large withdrawals required therefrom by the war effort, the duration of which may prove to be much longer than can now be anticipated."

Citing the estimate of the American Petroleum Institute that crude oil reserves were 19,024,515,000 barrels on January 1, 1941, the report noted that this amount "can only be recovered if production rates are restricted to make the maximum use of the natural reservoir energy in the field constituting this reserve."

The report reviewed the downward trend in the discovery rate, the increased number of dry holes, and the depressing effect of crude price declines on exploratory activity.

The need of adequate prices as a means of keeping small wells in operation was emphasized by the committee. It recommended, also, against the imposition of restriction against well abandonment. Speaking of prohibitions against the salvaging of material, as a means of preventing the abandonment of wells, the report said:

"Such restriction would be artificial and would operate against normal economic forces and conceivably would withhold from oil field supply markets materials which might possibly have been used in the finding elsewhere of considerable additional new oil reserves."

Well abandonments for the country as a whole were estimated as follows: 1937—8,200; 1938—8,400; 1939 — 10,000; 1940 — 9,300; and 1941—10,700. The report added, however:

"It would appear to be the logical conclusion that no very great amount of daily production was involved, perhaps not much more than ½ or 1 percent of total production and perhaps a lesser amount."

Concluding, the committee reported:

"War conditions may temporarily restrict civilian use of petroleum and its products, but to offset this defense demands are rapidly increasing and it is possible that the petroleum resources of our allies may be lost to them through enemy action making it necessary for the United States to supply any resulting deficiency. Regardless of immediate demand oil has become one of the most critical materials in modern civilization. Long term trends of consumption are strongly upward and it becomes vital that this country not only maintain but increase its known reserves of crude petroleum.

"For all fields which have not been substantially depleted there is an approximate optimum rate of production, which if exceeded results in waste of natural energy and loss of ultimate recovery. It is essential therefore that reserves be maintained at that amount at least which will permit production sufficient to meet consumptive demand without violation of recognized laws of conservation. The data presented in the earlier section of this report indicates that the reserves of the country may soon be inadequate to supply current requirements without waste.

"Since the introduction and refinement of geophysics no great advance has been made in the art of oil prospecting. The record shows an ever increasing amount of nonproductive drilling required for each important discovery. Less positive evidence in advance of drilling is clearly apparent. The conclusion seems inescapable that greater sums must be expended for exploration if we are to increase or, even maintain the Nation's reserves.

"The industry is qualified and prepared to increase its exploratory effort, dependent on two primary factors—first, the incentive to venture, and second, the availability of venture money. It will be seen that these two factors are closely related.

"Satisfactory prices for crude oil adequate to cover all operating and discovery costs and taxes are essential to maintain finding effort. Potentially advancing prices greatly accentuate the motive force behind such effort. The discovery rate under prices and other conditions existing during the past few years has declined. Accordingly, it is reasonable to conclude that higher prices for crude oil would speed up finding effort and discovery rates and would tend to build up reserves.

"The industry relies upon the over-all difference between cash income and cash outgo to provide the

funds for exploration. Exploration is a controllable expense. In a broad sense that amount remaining after meeting all other expenses is allocated to exploration. With constantly increasing tax levies such remainder correspondingly decreases. Tax assessments are in fact direct charges against funds otherwise available for exploration.

"The present percentage depletion allowance embodied in the tax laws is a modification of the original discovery depletion allowance, adopted twenty-four years ago as an incentive to stimulate discovery and development of the petroleum resources of the country. The oil industry of today stands as a tribute to the wisdom of the Congress and its tax making bodies in that it has been ever ready to meet the rapidly increasing demands of the nation, and with lower prices for its products over that period. It can be demonstrated that the establishment and application of the principle of depletion allowance in determining income tax has been one of the most effective motivating forces in establishing the present levels of crude oil reserves.

"In view of the present emergency, and in consideration of the downward trend of new discoveries against increasing demand, suggestions of the Treasury Department that percentage depletion be reduced are shortsighted and show a complete lack of appreciation of the imperative need to maintain the incentive to find new oil, which results from this provision. An increase in this allowance would be wiser overall governmental planning.

"Similar conclusions can be reached with respect to the problem of extending the life of marginal wells. Incentive provided by increased prices or anticipation of higher prices serves to encourage the operator to continue wells even after their economic limit has been reached. Statutory percentage depletion allowance also serves to retard abandonment of these small wells."

Preparations to substantiate the present statutory depletion allowance in computation of income taxes, now under attack by the Treasury Department, are being made by the California oil industry, in collaboration with the oil industry in other states.

A State "depletion" committee, composed of representatives of the California Oil and Gas Association, the San Joaquin Valley Oil Producers Association, the California

Tom M. Girdler
Featured A.P.I. Speaker

American Petroleum Institute

DIVISION OF PRODUCTION
PACIFIC COAST DISTRICT

Spring Meeting

TUESDAY, MARCH 10, 1942
BILTMORE HOTEL, LOS ANGELES

PROGRAM

MORNING SESSION—9:00 A.M.—Ballroom

Presiding: E. C. Babson, Chairman of California Topical Committee on Production Practice.

1. "FACTS ABOUT THE FLOW OF OIL-WATER MIXTURES THROUGH SURFACE EQUIPMENT"—by William Woelflin, Petroleum Rectifying Co. of California, Long Beach, Calif.
2. "OBSERVATION AND APPLICATION OF SUB-SURFACE TEMPERATURES IN OIL AND GAS WELLS"—by C. R. Dale, Technical Oil Tool Corporation, Ltd., Los Angeles, Calif.
3. "A PRACTICAL REVIEW OF THE BEHAVIOR OF OIL AND GAS POOLS"—by C. V. Millikan, Amerada Petroleum Corp., Tulsa, Okla.

AFTERNOON SESSION—2:00 P.M.—Ballroom

Presiding: Ernest K. Parks, Independent Petroleum Production Engineer, 10560 Dolcedo Way, Los Angeles, Calif.

1. A Symposium "CALIFORNIA PRODUCTION OF CRUDE OIL, GAS AND NATURAL GASOLINE FOR WAR EFFORT." The subject will be presented in its various phases by:
   L. L. Aubert, President, Bankline Oil Company, Los Angeles
   A. C. Rubel, Vice-President, Union Oil Co. of Calif., Los Angeles
   P. S. Magruder, Asst. Mgr. Gas Dept., General Petroleum., Los Angeles
   John F. Dodge, Professor of Petroleum Engineering, University of Southern California, Los Angeles.
2. A constructive open discussion of the topic under direction of the above speakers.

EVENING SESSION—DINNER—7:00 P.M. Biltmore Hotel

Presiding: Bruce H. Robinson, Division Superintendent, General Petroleum Corporation, Los Angeles.

1. Guest of Honor and Evening Speaker—Tom M. Girdler, Chairman of the Board, Chief Executive Officer, and Director of Republic Steel Corporation, Cleveland, Ohio; Consolidated Aircraft Corp., San Diego; and Vultee Aircraft, Inc., Vultee Field, Calif. Director of Aviation Corporation, New York, and Director of Goodyear Tire & Rubber Company, Akron, Ohio.
2. Reading of Annual Reports.
3. Annual Election of Officers.
4. Adjournment.

Stripper Well Association, and Oil Producers Agency, has been organized and will begin immediate development of factual material, policies, and methods intended to demonstrate to the Treasury Dept. that the depletion allowance is a necessity for the oil industry and other natural resource industries, and not a tax "loop hole". Work of this State committee will be coordinated with that of similar committees in other oil producing states through a national depletion committee in Washington.

"The depletion allowance, by permitting oil companies to recover the capital expended in the industry's drilling and exploration activities, is an important factor in the discovery of additional oil reserves needed to replace present production and carry on the war", according to C. P. Watson.

Oil Producers Agency representative on the State Committee. "A sub-committee of the Petroleum War Council, appointed at the request of Petroleum Coordinator Ickes to study ways and means of increasing oil reserves and preventing abandonment of small wells, found that the depletion allowance not only enabled the industry to continue its exploration activities and thus locate new reserves, but also that it enabled operators of marginal wells to keep them on production and thereby maintain the continuity of their output for war purposes. The sub-committee report suggested that it would be wiser governmental policy at this time to increase, rather than decrease or eliminate, the allowance. The report was approved by the War Council, and was also approved by Coordinator Ickes."

At the present time, removal of the allowance would be doubly dangerous, according to the report, since it would cripple the industry just at a time when adequate oil supplies are most needed for successful prosecution of the war.

Crippling of the California oil industry would be particularly serious, Japanese successes having left California the only source for oil to carry on Allied war efforts in the Pacific.

Amendment No. 3 of Conservation Order

M-68 Clarifies Well Spacing Method

Here follows Amendment No. 3 of Conservation Order M-68 issued by War Production Board, dated February 18, 1942, and taking effect immediately:

Title 32—National Defense
Chapter IX—War Production Board
Subchapter B—Division of Industry Operations
Part 1047—Petroleum
Amendment No. 3 of Conservation Order

1047.1 Conservation Order No. M-68 is hereby amended by inserting after paragraph (c) thereof a new paragraph (d) as follows, and relettering the ensuing paragraphs accordingly:

(d) Determination of Uniform Well-Spacing Pattern

(1) Subject to the provisions of (2) below, each well "spudded" subsequent to December 23, 1941, in any oil or gas field, other than a Condensate Field, on any proposed drilling unit consisting of not less than forty surface acres in the case of any oil field or of not less than 640 surface acres in the case of any gas field shall be deemed to conform to a "uniform well-spacing pattern" for the purposes of paragraph (c) (7) and (8) hereof, where such well is drilled in accordance with the following terms:

(i) Each well shall bear the same geographical relationship with respect to the square drilling unit upon which it is to be located as all other wells drilled subsequent to December 23, 1941 bear to the respective square drilling units upon which such wells have been or are to be located; **Provided,** that subject to the provisions of (2) below, any well which is to be drilled shall be considered as conforming to a uniform well-spacing pattern where such well is to be located within 100 feet of the point at which absolute geographic identity would be attained or where such well is to be located within 150 feet of the geographic center of a square drilling unit; or

(ii) Where property interests (including leasehold or other property interests) in irregularly shaped tracts necessitate departures from square drilling units, a well may be located on any drilling unit consisting of not less than the prescribed number of surface acres (40 surface acres in the case of an oil field; 640 surface acres in the case of a gas field); **Provided,** that such well is drilled in conformity with the provisions of (2) below.

(2) No well "spudded" subsequent to December 23, 1941 shall be considered as drilled in conformity with a uniform well-spacing pattern unless:

(i) The proposed drilling unit upon which such well is to be located consists entirely of acreage which is not attributable to any well other than such proposed well. The acreage attributable to wells offsetting the proposed drilling unit shall be determined by assigning to such wells an acreage equivalent to that in the existing well density or drilling pattern contiguous to such wells. In the case of an oil field no portion of a drilling unit shall fall within 330 feet of an existing well; in the case of a gas field no portion of a drilling unit shall fall within 1320 feet of an existing well; and

(ii) The direct linear distance between any two points which are farthest removed from each other on the drilling unit upon which a well is to be drilled does not exceed the length of the diagonal of a rec-

tangle whose length is twice its width and which is equivalent in surface acreage to such drilling unit; and

(iii) All separate property interests of less than 40 surface acres in the case of an oil field, 640 surface acres in the case of a gas field, or in tracts on which a well cannot otherwise be drilled by virtue of the provisions of this Order, surrounding the designated drilling location of any well, are first consolidated with each other, another, or other property interests to form a drilling unit (consisting of not less than 40 surface acres in the case of an oil field; 640 surface acres in the case of a gas field) on which a well may be drilled; and

(iv) Such well is drilled at least 990 feet in the case of an oil field or 3960 feet in the case of a gas field from any well "spudded" in such field subsequent to December 23, 1941; and

(v) Such well is drilled at least 660 feet in the case of an oil field or at least 2640 feet in the case of a gas field from any well "spudded" or completed in such field on or before December 23, 1941; and

(vi) Such well is drilled at least 330 feet in the case of an oil field or 1320 feet in the case of a gas field from any lease line, property line or subdivision line which separates unconsolidated property interests.

This Amendment shall take effect immediately.

Issued this 18th day of February, 1942.

(Signed) J. S. Knowlson
Director of Industry Operations.

Following the Amendment is a definition of "Lease Equipment" as used in M-68 dated January 26, 1942, issued by Robert E. Allen. It will be in full force if and when approved by the War Production Board:

The term "lease equipment" as used in Conservation Order M-68, as amended, shall refer exclusively to the permanent and fixed equipment and Materials installed on any property located within the productive boundaries of the field or pool for direct or indirect use in the production of petroleum, and including production office and camp facilities located adjacent to any field, but excluding the well, well equipment, pumping and artificial lifting facilities, flow lines and gathering lines from the wells, cycling plants, pressure maintenance plants, and plants for the extraction of natural gasoline and associated hydro carbons or for other treatment or processing of gas.

C. N. G. A. Joint Gadget Meeting and Contest 1942

DATE OF MEETING: Friday, April 10, 1942
PLACE: Hotel Lebec on the Ridge Route
TIME: Dinner (Buffet Style) 6:00 P. M. 75c plus tax
Meeting 7:00 P.M. NO Charge

Purpose of Meeting: To provide a means of bringing out gadgets and operating kinks where all may see the constructive work of others so that the individual with a gadget may have an opportunity to "Get It Over" and incidentally win some prize money. Those wishing to protect their patent rights should consult their attorney or communicate with the secretary regarding a simplified tentative procedure.

Eligibility: Any one in the natural gasoline, natural gas or allied industries may enter a gadget or kink. Gadgets which are already on the market are NOT eligible and gadgets entered in last year's contest are NOT eligible. Membership in C.N.G.A. is not necessary.

Definition of Gadget: A new device, tool, implement, part or piece of equipment designed to improve the doing of a job in a faster, safer, easier or more profitable way.

Definition of an Operating Kink: A new or improved way of doing an old job by rearrangement or different use of existing tools, equipment or devices. If you have doubt as to whether or not your idea can qualify, send it in anyway.

Judging: Will be based principally upon the Originality, Utility, Time Saving, Labor Saving, Safety and Health features of the gadget or kink.

Prizes: Will consist of First Prize $15; Second Prize $10; Third Prize $7.50; Fourth Prize $7.50; four $5 prizes and 6 June Frolic tickets valued at $2.50 each.

How to Enter a Gadget or Kink in the Contest: Fill in the spaces of the form below with the information indicated. Make a good working drawing or sketch (heavy black lines on white paper preferred over blue prints for slide purposes, of gadget or kink. A good photograph is most desirable. Slides will be made of some entries by the committee where thought advisable. You will be allowed not over three minutes to describe your gadget or kink from the platform during the meeting. If necessary, ask the gadget committeeman or someone in your organization qualified to help you with the drawing or description. THEN detach and mail the Entry Form and drawing or photograph, to Geo. L. Tyler, CNGA secretary, 510 W. 6th St., Los Angeles not later than March 27, 1942. An entry filed not later than March 27, 1942 will receive consideration for prize awards even though the party submitting same is unable to attend the meeting with his gadget or kink. Attendance is highly desirable however, in order to explain the entry.

Names of Committeemen: R. S. Ridgway, Chairman, Standard Oil Co., Box 430, Whittier; Phone Whittier 413536. NORTHERN AREA: R. N. Donaldson, Standard Oil Co., Natural Gasoline Dept., 11-C, Taft; R. H. Morey, Honolulu Oil Corp., Bin H. Taft; Frank Willis, C. C. M. O. Co., Box 68, McKittrick. SOUTHERN AREA: W. L. Rifenberick, Industrial Engineers, Inc., 819 E. 59th St., Los Angeles; T. T. Rissinger, Union Oil Co., Box 807, Santa Fe Springs; A. B. Wardlaw, The Texas Co., Box 320, Long Beach.

.....

ENTRY FORM

NAME OF GADGET OR KINK .....
NAME OF ENTRANT .....
POSITION ..... **PHONE** .....
PURPOSE OF GADGET OR KINK (25 word limit) .....
.....
.....
.....

WILL YOU BRING YOUR MODEL TO THE MEETING? ..... WILL YOU DESCRIBE MODEL FROM PLATFORM?..... On the back of this form (or additional page) tell us briefly about the usefulness of this entry. THEN MAIL THIS FORM WITH ENCLOSURES TO George L. Tyler, CNGA Secretary, 510 W. Sixth St., Los Angeles, Calif. Secretary's Phone VAndike 5521.

THIS LAUGH OFF!!

Once upon a time there was a farmer who had a garden full of the nicest cabbages you have ever seen. Each morning a little rabbit would hop in and eat one of the cabbages, and this went on until one day the farmer noticed that his cabbages were all disappearing, and he couldn't figure what the hell was happening to them. But, we know, don't we?

John Kunkel heard this one somewhere:

Young Miss Jones had just been prepared for the operating room and placed on the stretcher to be wheeled in finally by the nurses. While she was left alone one doctor approached, lifted the sheet, peeked under and left. Soon thereafter another appeared and lifted the sheet, peeked under, and left. Still another approached, lifted the sheet and peeked under.

This was entirely too much, so she asked the young man: "What am I here for, Doc, observation or operation?"

He replied: "I don't know; I'm not the Doc; I'm the painter down the hall."

A missionary society member approached George, "We are having a raffle for a poor widow," she said. "Will you buy a ticket?"

"Nope," said George. "My wife wouldn't let me keep her if I won."

If there's a beautiful tie between a father and a son, the son will be wearing it.

Miss Sophia Jones walked into the lawyer's office.

"Cain't ah sue dat no good Sambo Smiff fo' somethin' mister? He promised to marry me, an' yestiddy he done 'loped wid anoddah gal."

"Promised to marry you, eh?" mused the lawyer. "Well, have you anything in black and white to show for it?"

"No, suh," replied Sophia. "Jes' black is all."

Bellhop (making lady and gentleman comfortable): "Anything else, Mr. Smith?"

Guest: "No, thanks."

Bellhop: "Anything for your wife?"

Guest (absentmindedly): "Why, yes, bring me a post card."

"Engine trouble, Bud?"

"Nope!"

"Tire down?"

"Didn't have to!"

One of the college's social research workers visited a local asylum. In one of the cells sat a man whose only garment was a hat.

"My good man," cried the interested student, "that's no way to be sitting around. Why don't you put some clothes on?"

"Because," answered the inmate sadly, "nobody ever comes to see me."

"But," said the student, "why do you wear a hat?"

The nut shrugged his shoulders. "Oh," he said, "somebody might come."

"My boy-friend in the R.A.F. drops bombs on beer joints and such."

"What's the idea?"

"I don't know. His letter just says that he's a dive bomber."

Names used on this page are entirely fictitious, and any resemblance to persons either living or dead is purely coincidental.

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IF YOU USE A "BLITZ RIG" for shallow drilling, core testing or light production work, Martin-Decker has the ideal toolpusher weight indicator to go with it.
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Field Developments

Los Angeles Basin

Operators Abandon Towsley Canyon Well

After testing all possibly productive formations, Barnsdall Oil Co., Bandini Petroleum Co. and Ambassador Oil Oil Co. abandoned their joint test, Limbocker No. 1, in sec. 17, 3n-16w at Towsley Canyon. Drilled to 7056 ft., the well encountered steeply dipping formations all the way down and found only poor oil showings which yielded artesian water on production tests.

Bell View Abandons Rideout Heights Well

Bell View Syndicate's No. "P"-1 was abandoned after a series of tests showed the tar showings to be too dry to produce, at least in this section of the old Rideout Heights field. The hole was carried to 1655 ft. and plugged to 1270 ft. where 6⅝ in. casing including 71 ft. of perforated was landed. This interval tested wet and gun perforations above indicated there was no fluid in the shallower showings.

Two Castaic Wells Continue to Drill

Mangold & Morse Oil Co.'s McDermott No. 1, located in sec. 26, 5n-17w near Castaic, is drilling below 3000 ft. in brown silty shale, having passed out of the conglomerate at 2780 ft. Formation at bottom resembles Miocene but no definite determination has been made.

North of Saugus in sec. 11, 4n-16w, Roy W. Young, Inc. is drilling near the 7950 ft. level in formation reported as hard shale with occasional streaks of sandstone.

2nd Turnbull Well Is Big Producer

Surprisingly good production was obtained by Continental Oil Co. in completing its second well in the new Turnbull Canyon field which, after failing to encounter oil sands when vertically drilled, was directionally redrilled to 3707 ft.

The original hole was drilled to a depth of 3792 ft. encountering a fault at 3470 ft. With no showings below the fault, the hole was plugged back to 1920 ft. and a whipstock was set to obtain a 20 degree deflection to the north. With 7 in. casing cemented at 3270 ft. and 440 ft. of 5 in. liner landed at 3258 ft., the well was completed flowing 595 bbls. of 26.3 gravity oil in 15 hours. Five days later the well settled down to producing 860 bbls. of clean oil while flowing through a

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Castaic	Mangold & Morse Oil Co., McDermott	1	26, 5-17	3005	Drilling
	Young, Roy, W., Inc., Walker	1	11, 4-16	7927	Drilling
Newhall	Ariline Oil Co., Perkins	1	11, 3-16	1358	Drilling
	Barnsdall Oil Co., Limbocher	1	17, 3-16	7056	Abandoned
	Willis & Assoc., Ferguson	1	36, 4-17	7519	Testing
Palmdale	Wesco Const. Co., Well	1	20, 5-9	2900	Drilling
Palos Verdes	Surety Holding Co.	1	22, 5-14	1335	Drilling
Puente Hills	Axis Pet. Co., Tandberg	1	13, 2-11	4189	Testing
	Axis Pet. Co., W. R. Rowland Ranch	1	21, 2-10	775	Drilling
	Continental Oil Co., Turnbull Comm.	2	13, 2-11	3841	Completed
Rio Hondo	Potrero Oil Co., Well	1	32, 1-11	5370	Idle
San Fernando	Fernando Oils, Ltd., Chatsworth	1	18, 2-16		Rig
	Shell Oil Co., Mission	2-1	25, 3-16	6144	Drilling
	Tide Water Assoc., Mission	1	26, 3-16	9238	Drilling
	Tide Water Assoc., Sesnon	1	28, 3-16	3546	Drilling
West Whittier-Rideout Hts.	Bell View Oil Synd.	"P" 1	17, 2-11	1655	Abandoned
Whittier-La Habra	Los Nietos Valley Oil Co., Woodard	1	29, 2-11	50	Idle
	Orange County				
Anaheim	The Texas Co., Spencer	1	1, 4-11	9660	Testing
Bolsa Chica	La Bolsa Ro. Synd., Crane	1	22, 5-11	3361	Drilling
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5649	Fishing D.P.
Cypress	Midfield Pet. Co., Cypress	1	16, 4-11		Location
Kraemer	Atlas Oil Co., Kraemer	1	36, 3-9	2675	Idle
	South Basin Oil Co., Well	103	24, 3-9		Location

31/64 in. bean with pressures at 110 lbs. on the tubing and 410 lbs. on the casing.

Three quarters of a mile northwest of Continental's new producer, Axis Petroleum Co.'s Tandberg No. 1 is testing cement jobs before attempting to complete. Bottomed in hard black shale at 4189 ft. and plugged to 3440 ft., the well is cased with 7 in. pipe which includes perforations from 3330 to 3367 ft. and from 3374 to 3439 ft. The casing was cemented through perforations at 3323 ft. and 2910 ft.

Two miles east of the Turnbull Community wells, Axis Petroleum Co. is drilling Rowland Ranch No. 1 near the 800 ft. level. Flowing fresh water has been encountered in this well.

Airline Drills Newhall Wildcat

Airline Oil Co. Perkins No. 1, sec. 11, 3n-16w is drilling below 1400 ft. in search of a new field in the Newhall area. Spudded some months ago with portable equipment, the project is now rigged with a heavier outfit and plans to go deep enough to make a thorough test.

The Airline Oil Co. is headed by V. C. Carter who formerly operated successfully in the League City field of Texas, G. J. Johnson, St. Paul banker and George H. Johnson who drilled at Signal Hill in the early days. Operating personnel includes Herman Layer, general manager and Anner N. Petty, geologist.

Universal Deepening Aliso Canyon Project

After making only a semi-successful production test at 7665 ft., Universal Consolidated Oil Co. pulled the liner from Ward No. 1 at Aliso Canyon and is deepening below 7940 ft. During the production trial, with casing set at 7425 ft. the well flowed an estimated 300,000 cu. ft. of gas with a small amount of condensate.

West of Aliso Canyon, Tide Water Associated Oil Co. and Standard Oil Co. are jointly drilling Sesnon No. 1 in hard shale at 3600 ft. while to the east of the field, Tide Water's Mission No. 1 is below 9240 ft. and Shell Oil Co.'s Mission No. 2-1 has passed the 6145 ft. level.

Anaheim Well Completes After Flowing on Test

After flowing small quantities of 20 gravity oil during several drill stem tests, The Texas Co.'s Anaheim wildcat, Spencer No. 1 is being readied for completion. Drilled to 9660 ft., the well was cased to bottom with 5½ in. pipe which was gun perforated and tested by stages from 9580 ft. back up the hole to 8328 ft. Small flows of oil and water were obtained from holes from 8740 to 8764 ft. and from 8770 to 8782 ft. but the best showing was in the interval 8900-8932 ft. from which the well flowed 20.7 gravity oil cutting 5.5% at a rate of 140

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PATTERSON-BALLAGH Corporation

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bbls. a day. All but the last mentioned perforations are being plugged or squeezed off preparatory to completing.

Located in the northeast quarter of sec. 1-4s-11w, Spencer No. 1 bids fair to find the long sought Anaheim area field. Previous drilling in this vicinity by The Texas Co., Shell Oil Co. and others has resulted in the finding of a few oil showings but no well heretofore has recovered any quantities of oil on formation tests. Although little information has been released on the Spencer well, it is believed the oil sands were encountered near the base of the Repetto which was topped at approximately 7800 ft.

Because opinions differ as to the type of structure and it is yet impossible to predict the extent of the new field, it is probable that the near future will see the drilling of several more wildcats in the Buena Park-Anaheim area.

Willis & Associates Test Newhall Wildcat

Still labelled as one of the most promising wildcat wells in California, the C. G. Willis & Associates Ferguson No. 1 proved itself in the upper zones by swabbing and flowing by heads at the rate of 200 bbls. a day of 33 gravity oil.

Located in sec. 36, 4n-17w, southeast of the Newhall-Potrero field, the well encountered a sandy formation at 6700 ft. which was comparable to the First Zone in the proved area. Although the formation was lower than that in the nearest well, Barnsdall Oil Co.'s R. S. F. No. 14, the character of the sands showed encouraging prospects and on formation test yielded oil at a 500 bbl. daily rate.

Since the Third Zone is the most productive in the established field, the well was drilled ahead to a depth of 7519 ft. but only gray sand was cored in the deeper horizon from 7220 to 7360 ft. A plug was then placed at 7140 ft. and a perforated liner landed for a test below the casing shoe at 6857 ft. After swabbing and flowing by heads for several days, the tubing was pulled and re-run with a packer which steadied the flow considerably. Water appeared to break in however, the cut increasing rapidly from 10% to 70%. On running a witch, the water was found to enter just above the plug and the liner is now being pulled to plug back to about 7100 ft.

While it is possible that this well may be located on a continuation of the Newhall-Potrero field, the fact that the Third Zone was unproductive here in contrast to being oil bearing a little over a mile to the northwest, lends credence to the view that the Willis venture has discovered a different producing area.

On the strength of the good showing of the Willis well, a syndicate of Long Beach men is planning to deepen the Newhall-Potrero

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Oil Co. Ferguson No. 1 and Aztec Oil Co. is tentatively planning to resume drilling in its Sanborn No. 1.

Midfield Plans Cypress Wildcat

Midfield Petroleum Co., now headed by Haskell Greene, is planning to start work immediately on its proposed wildcat in sec. 16, 4s-11w south of Cypress in Orange county. The drilling contract has been let to Western Drilling Co. which will move its equipment from Wilmington. The project will be located at the northwest corner of Orange and Walker Sts.

Wilmington Activity Slowed by Order M-68 .

As a result of the famous Order No. M-68, activity is considerably slowed in the Wilmington area with only about ten strings of tools running. Most of these are redrill jobs, the number of which has increased in recent weeks. Some operators are reported to have received o.k.'s on exceptions to the order and it is assumed that undeveloped areas, particularly in the northwest, will be considered favorably by the Petroleum Coordinator's office.

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La Bolsa Wildcat Nears 6000 Feet

La Bolsa Rancho Oil Syndicate's Crane No. 1, located at the intersection of Springdale and Wintersburg Roads northwest of Huntington Beach, is reported as drilling in sandy shale at 5950 ft. A tar showing was logged near the 2000 ft. level and a fair ditch show was noted at 5830 ft. The Repetto is said to have been topped at approximately 4250 ft. which is somewhat lower than the Huntington Beach field.

South Basin Plans E. Richfield Well

Seeking a new field in the hills east of Richfield, South Basin Oil Co. is preparing to drill a test well on Kraemer property in sec. 24, 3s-9w a mile north of Standard Oil Co.'s Kraemer No. 1 field. The well will be known as No. 103.

West. Gulf Redrills Oak Canyon Project

Hoping to find the deep zone productive in a directed hole, Western Gulf Oil Co. is redrilling Lechler No. 3 at Oak Canyon. Drilled originally to 7595 ft., the well found the Lechler No. 2 horizon gray and plugged to a shallow level. The redrill job is now below 4100 ft.

Western Gulf Oil Co.'s easterly outpost, L. W. Gilmour-U. S. No. 1 in sec. 32, 5n-17w, is drilling near the 5350 ft. level.

Engineering, Technology, latest news—twice a month in California Oil World.

San Joaquin Valley

Kerman Wildcat Deep in Section

Richfield Oil Corp.'s Fresno County wildcat Ponte No. 1 in sec. 30,13-17, currently the Valley's most northerly operation, is spot coring at 5450 ft. in what is believed Cretaceous formation with the section reported encountered near 4760 ft. The Eocene was found at 4617 ft. and the Kreyenhagen at 4430 ft. Only showings thus far reported were slight traces in the Temblor near 3500 ft.

Shell Oil Resumes Raisin City Drilling

Shell Oil Co., Inc., is first to resume drilling in the yet new Raisin City field of Fresno County. Just spudded, the current well is No. 37-18 on the Properties, Inc. acreage and is located 986 ft. north and 1598 ft. east of the southwest corner of sec. 18,15-18.

Shell has location staked for Santa Ana and Fresno Land No. 22-19 in section 19 of the township while across the line in township 15 south range 17 east the Seaboard-T.W.A.-Union Oil Co. in combination is awaiting approval of two drilling sites in section 13.

Amerada Completes Second Helm Well

In the Helm area of Fresno county Amerada Petroleum Corp. has completed Weyant No. 5-27 as the second well in the new field it discovered in October, 1941. Located a little more than half a mile northwest of the discovery well in sec. 27,16-17, the well bottomed in barren Cretaceous at 8500 ft., cemented 5½ in. casing at 8180 ft. and gun perforated from 8100 to 8110 ft. in Eocene sands to complete flowing 254 bbls. of clean 31 gravity oil through a 15/64 in. bean. With a packer on the tubing string the well registered 350 lbs. flow pressure and made 144,000 cu. ft. of gas.

The discovery well, Clover No. 31-34 in section 34 of the same township, was finished flowing 662 bbls. of clean 64.7 gravity oil and 13,618,000 cu. ft. of gas from 10 ft. of Miocene sands at 7303 ft. after proving producible in three intervals from Miocene at 7300 ft. to Eocene at 8000 ft.

The company is preparing to drill Clover No. 75-28 immediately west of the recent completion and has graded roads to the location of Clover No. 75-34 just south of the discovery well where operations await results of adjacent drilling.

Approximately a half a mile southwest of discovery, near the east quarter corner of sec. 33,16-17, Gene-

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Guijarral Hills	Lytle, Robt, S., Opr., Well	68-28F	28, 20-16	3182	Drilling
Helm	Amerada Pet Co., Weyant	5-27	27, 16-17	8500	Completed
	Amerada Pet. Co., Clover	75-28	28, 16-17		Rig
	General Pet. Corp., Esperoad	75-33	33, 16-17	8266	Testing
Jacalitos Hills	Wilshire Annex Oil Co.	41-26E	26, 3-15	4072	Abandoned
	Wilshire Annex Oil Co.	45-26E	26, 3-15	3867	Swabbing
Kerman	Richfield Oil Corp., Ponte	1	30, 13-17	5450	Drilling
Raisin City	Seaboard-T.W.A.-Union, S.T.U.	86-13	13, 15-17		Foundation
	Shell Oil Co., Inc., Prop., Inc.	37-18	18, 15-18	300	Drilling
	Shell Oil Co., Inc., S.A. & F.L.	22-19	19, 15-18		Location
Riverdale	Amerada Pet. Corp., Jensen	54-26	26, 17-19	7187	Drilling
	Amerada Pet. Corp., Lawton	58-26	26, 17-19		Location
	Amerada Pet. Corp., Leal	34-26	26, 17-19		Location
	General Pet. Corp., Comm. 8	45-21	21, 17-19		Rig
	Kern County				
Buttonwillow	The Texas Co., Root	9-C	9, 29-24		Grading roads
	The Texas Co., Bowerbank	4-23	23, 29-24	4926	Comp. gasser
	The Texas Co., KCL	24-C	24, 29-24		Foundation
Devils Den	Continental Oil Co., Mabury	1	25, 26-18		Laying Lines
Dyer Creek	Dyer Creek Oil Co., Well	1	2, 26-27		Rig
	Shell Oil Co., Smith Cairns	3	11, 26-27	2332	Drilling
	Union Oil Co., Villard	62-1	1, 26-27	2143	Abandoned
Grapevine	Richfield Oil Corp., KCL	3	36, 11n-20w		Laying Lines
Kern River	Seaboard Oil Corp., Fuhrman	1	28, 28-28		Rig
Midway	Western Minerals Co., U.S.A.	37-25	25, 11-23		Grading
Mt. Poso	Alpha Oil Co., C. V. Elliott	1	1, 27-28	1320	Redrilling
	Signal Pet. Co., Loudon	1	32, 26-28		Rigging up
	R. R. Bush Oil Co., Rodgers-Jones	1	35, 26-27	2924	Abandoned
	Signal Oil & Gas Co., Signal-Bishop	2	22, 27-28		Location
	Signal Oil & Gas Co., Glide	23-1	22, 27-28		Location
	Vedder, D. G., Glide	23-1	23, 27-28		Location
Paloma	General Pet. Corp., Gallagher	61-33	33, 31-26	1814	Idle
	Ohio Oil Co., KCL A-10	41-4	4, 32-26	10093	Drilling
	Western Gulf Oil Co., L.A.A.C.	36-1	6, 32-27		Foundation
	Western Gulf Oil Co., Symons	12-7	7, 32-27	11811	Testing
Richgrove	Bolling, R. S., Quinn	3	15, 25-27	2926	Rigging pump
	Shell Oil Co., Curry	1	20, 25-26	4624	Drilling
	Wilshire Annex Oil Co., Amalg.	1	17, 25-28	47	Drilling
Shafter	Continental Oil Co., Neuman	1	36, 27-24	9949	Redrilling
	General Pet. Corp., S.P.	51-15	15, 28-24	14252	Testing
Shale Hills	Tideland Oil Co., Grant Est.	1	4, 27-18	3648	Drilling
Union Avenue	Hancock Oil Co., Roberts	4	6, 30-28	5377	Bailing
	Richfield Oil Corp., Union Ave.	2	6, 30-28	5340	Pumping
	Kings County				
Dudley Ridge	Dudley Ridge O. C. Ltd., D.R.	3-16	3, 23-19	1627	Tested wet
Pyramid Hills	Pacific O. & G. Dev. Corp., West Slope	2	20, 24-18		Location
	Tulare County				
Pixley	Continental Oil Co., Pixley Comm.	1	9, 23-25	505	Drilling
Terra Bella	Stout, Geo. W., Stout	2	11, 23-27	745	Idle
Trico	Trico Oil & Gas Co., Lee	1	17, 24-23		Rig

ral Petroleum Corp.'s Esperoad No. 75-33 is gun perforating and testing after cementing 358 ft. of blank 7 in. pipe on bottom at 8266 ft.

With the Eocene topped at 8095 ft. in this well, a formation tester, open 30 minutes in the interval 8080 to 8163 ft., recovered only muddy salt water. Subsequent formation tests at present bottom failed, making a stub liner test necessary. A formation trial at the Kreyenhagen contact in the interval 7472 to 7637 ft. resulted in a diminishing gas blow and a recovery of some mud and gassy salt water.

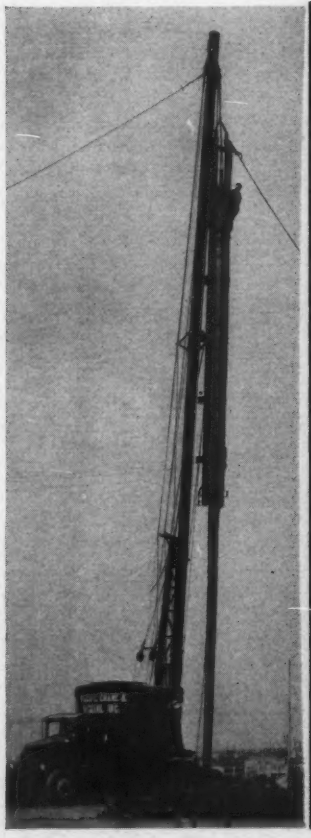
Wilshire Abandons Jacalitos Outpost

Effecting a partial delineation of the size of its newly discovered Jacalitos Hills oilfield, Wilshire Annex Oil Co. abandoned No. 41-26E at the northeast flank of the production found in sec. 26, 21-15. Located a quarter of a mile northeast of production, the well proved the Temblor sands to be 192 ft. stratigraphically lower than in the discovery well and after repeated swabbing to bottom at 4072 ft. was able to recover only limited amounts of mud, oil and emulsion.

Discovered in October, 1941, the field consists at present of two wells on a northwesterly trend in the northwest quarter of the section, each of which has proved capable of approximately 100 bbls. of 40 gravity pumped production from the 3700 to 3800 ft. level.

Wilshire Annex is currently swabbing for production in No. 45-26E, south of the discovery and one location southwest of the center of the section. Bottomed at 3867 ft. the well is reported to have cored tight oil sand in the interval 3827 to 3851 ft. which is slightly higher than in the company's second well.

In a further effort to define its productive acreage the company is rigging up to drill No. 8-23E northwest of production in the southwest corner of sec. 23,21-15.



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Second Gasser Completed In New Bowerbank Field

The Texas Co. completed the second gasser in its new field, when Bowerbank No. 4-23 was finished for a large but yet undetermined yield. Located in sec. 23,29-24, the hole was originally drilled by Union Oil Co. which found the Stevens zone barren after bottoming at 12,144 ft. Since no third curve was made in logging the original hole the well was redrilled to 4945 ft. where an electric log was run to properly chart the Mulinia sands proved productive in the discovery S. P. No. 47-15, a mile to the northwest. With 5½ in. casing cemented on bottom, the operators gun perforated opposite the sands in a yet unrevealed interval and swabbed the well in flowing a large volume of gas believed comparable to the discovery well's production of 11,000,000 cu. ft. daily.

While the exact zone open is unknown it is revealed that the two wells demonstrate at least 650 ft. of gas sand closure, leading to the belief that the areal extent of the strike will be large.

The company's development program calls for two immediate grass root tests in outlying positions. First to get under way will be KCL No. 24-C, foundation for which has been poured in the southwest quarter of sec. 24,29-24. Roads are being graded to the location of Root No. 9-C in the southwest quarter of section 9 in the same township.

The discovery was made when The Texas Co. re-entered its own S.P. No. 47-15 for gas trials omitted on the original unsuccessful oil try to 12,138 ft. Cleaned out and gun perforated in a 100 ft. section of Mulinia sands above a plug at 4271 ft., the well flows eleven million cubic feet of gas, a valuable addition to industrial supplies and made more important by its availability. Located in the lower central section of the San Joaquin Valley, the production is near present gas transmission systems which make the fuel accessible without costly pipe line installations.

Amerada Plans New Riverdale Area Wells

Having successfully concluded a fishing job on Jensen No. 54-26, second well in its new Fresno county field, Amerada Petroleum Corp. is rapidly nearing completion of its current work and has announced locations for two ensuing wells. The wells, Lawton No. 58-26 and Leal No. 34-26, will be in sec. 26,17-19, discovery section and site of current drilling.

The discovery well, Lawton No. 45-26, was an 8311 ft. wildcat drilled near the center of the section which proved capable of flowing 558 bbls. of 34 gravity oil and 1,375,000 cu. ft. of gas from a 20 ft. interval above 6685 ft. during December 1941.

The second and current driller, Jensen No. 54-26, is located immediately northeast of discovery and was last reported drilling at 7187 ft. after recovering a drill pipe fish from 6500 ft. Two formation tests have indicated the possibilities of the well. The first on a 10 ft. interval at 6638 ft., open only 10 minutes, blew gas at an estimated 15,000,000 cu. ft. rate and recovered 50 ft. of mud and condensate. The second test, made on the interval 6775 to 6915 ft. resulted in a 14,000,000 cu. ft. gas blow and recovered some 37.4 gravity free oil.

Continental Seeks Devils Den Production

Continental Oil Co. is seeking deep production in the Devil's Den area of Kern County. Water lines are at present being laid for the wildcat, Mabury No. 1, in the northeast quarter of sec. 25,26-18.

In the shallow Devils Den field proper, E & S Oil Co. is preparing to resume drilling in its 1019 ft. well No. 1 in sec. 26,25-18. In sec. 26,25-18 Raymond D. Herzog Collins No. 1 was last reported at 380 ft. while his Marine No. 30 was drilling at 249 ft. in oil sand topped at 240 ft. R. S. Meisse is drilling General American No. 1 at 202 ft. on a location 400 ft. south and west of the northeast corner of sec. 35,25-18.

Richfield Oil Plans Third Grapevine-Wheeler Ridge Try

Taking its place in a broadscale exploration of Richfield Oil Corp.'s vast south Valley holdings, the company's proposed Grapevine-Wheeler Ridge area wildcat, K.C.L. No. 3, will soon be drilled near the center of the north half of sec. 36, 11n-20w. Water lines are being laid to the site which is a half mile west of the Ridge Route Hiway on a direct line between the Wheeler Ridge oil field and the small Grapevine Pool in sec. 33,11-19.

Many possibilities are open to conjecture despite the complexities of the area since Miocene production exists in both the McClure and Vaqueros at Wheeler Ridge as well as some showings developed in the Oligocene by Richfield's 11,004 ft. KCL. No. 1 immediately south of the

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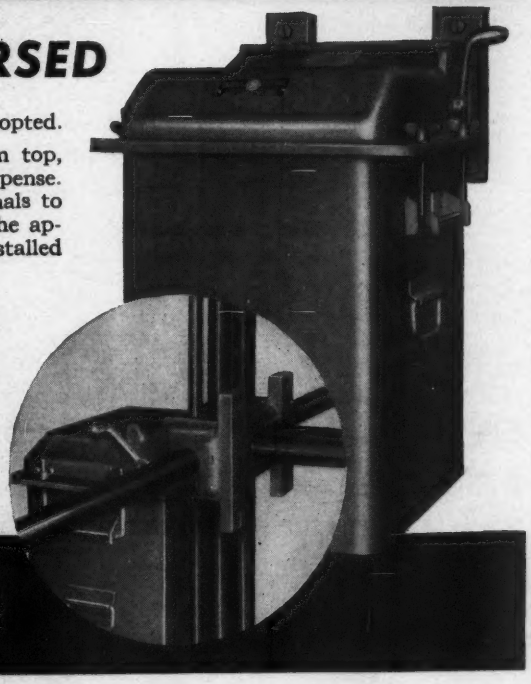

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field in section 28. KCL No. 2, drilled to 11,681 ft. a third of a mile southwesterly, found Eocene sands of seemingly good character which failed to produce the indicated oil, a case comparable to the Oligocene sands in the original deep well.

While acute folding is known to occur easterly from the Ridge field, not enough is generally known to hazard a guess as to the actual findings in this third and extremely important south Valley wildcat.

Dyer Creek Well Finds Vedder Gray

Union Oil Co.'s Villard No. 62-1 in sec. 1,26-27 was abandoned in gray Vedder sand at 2143 ft. after encountering the zone at 2098 ft. The wildcat was drilled in search of sands comparable to those found productive in section 11 by Shell Oil Co.'s Smith No. 56-X-11 late in 1941, and which pumped 235 bbls. of 15 plus gravity oil from 18 ft. of Vedder sand above 2361 ft.

Shell is itself attempting extension of the production in Smith-Cairns No. 3 also in section 11, presently reported drilling at 2332 ft.

North of the proved well in sec. 2,26-27, Dyer Creek Oil Co. plans immediate drilling to try for Vedder production.

Three Tests Drill In East Valley Area

In an area generally described as east of Delano and north of the East Valley fields three wildcat projects are at work. In sec. 15,25-27 R. S. Bolling is preparing to pump test Quinn No. 3 from 2915 ft. after running prepack liner to try heavy oil sands cored in the interval 2896 to 2920 ft.

In sec. 20,25-26 Shell Oil Co., Inc. is drilling Curry No. 1 at 4624 ft. with no showings yet reported. Wilshire Annex Oil Co. has just spudded Amalgamated No. 1 in sec. 17, 25-28 on leases recently acquired from Amalgamated Oil & Gas Co. The objective is reported to be the Pyramid Hills Sand, a marine deposition immediately above the Vedder in the Vaqueros section of the Miocene, absent in some sections of the east Valley, wet in other sections, but productive in the south end of the Freeman area at Round Mountain.

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Bell to Deepen Cat Canyon Test

Hoping to yet uncover a productive deep zone at the north end of the old West Cat Canyon field, Alphonzo E. Bell Corp. is preparing to drill ahead in Gilmore No. 1. Located in sec. 23, 9n-33w, the well was found to lack fluid in tests of the interval 4930-6377 ft. which consisted mostly of cherty brown shale showing oil in the fractures. The geological section below present bottom has never been tested in this immediate area and there is a possibility that some lower Miocene sands may be present.

In sec. 13, 9n-33w, northeast of the Bell project, the syndicate headed by O. C. Field and Wm. G. McDuffie is drilling Palmer-Stendel No. 13-1 below 3300 ft. Miocene was topped at 2700 ft. and the well is coring for the Chert Zone from which production is obtained by Standard Oil Co. and Union Oil Co. in the Los Flores area to the southwest.

Carpinteria Well Finds Heavy Tar

Century Oil Co. in testing Core Hole Hall No. 1 at Carpinteria has so far recovered only a small quantity of 10 gravity tar. The hole was cored to 715 ft. where 7-in. casing was landed and cemented through perforations at 61 ft.

Union Completes Bell at Cat Canyon

Largest producer in the Los Flores area of West Cat Canyon was obtained by Union Oil Co. in completing Bell No. 13 for 1600 bbls. a day. Finished at 6050 ft. with a combination water-oil string landed on bottom and cemented at 5390 ft., which is the top of the perforated interval, the well was brought in on the pump as is customary in this field. When shut in after two days, the oil tested 14 gravity and less than 2.0% cut. For the Union Oil Co., this well should blow up the "13" jinx idea as it not only carried that number but was brought in on Friday 13, of February.

Republic Drills Gato Ridge Well

Seeking to find an accumulation on the westerly flank of the Gato Ridge field, Republic Petroleum Co. has spudded in Price No. 1 in the northeast quarter of sec. 16, 8n-32w. Located somewhat lower structurally than presently producing wells. Price No. 1 at last reported depth of 2526 ft. had not yet encountered the Miocene in which production is sought.

Ventura Wildcat Progress Reported

Ventura Southern Oil Co.'s McCampbell No. G-1, located in sec. 19-3n-19w near Bardsdale, is drilling and spot coring below 1770 ft. with occasional oil and gas showings reported.

Richfield Oil Corp.'s deep test, Ojai No. 44 in sec. 13, 4n-22w, cored a few feet of oil sand in the interval 5372-5396 ft. but did not stop for a test and is now drilling below 5625 ft. Formation dips aver-

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Cat Canyon	Alphonzo E. Bell Corp., Gilmore	1	23, 9-33	6377	Prep. to deepen
	O. C. Field & Wm. C. McDuffie et. al. Palmer-Stendel	13–1	13, 9-33	3266	Drilling
Carpinteria	Century Oil Co., C. H. Hall	1	34, 4-25	715	Washing perfs.
Casmalia	Dolly Adams Oil Co., Morganti	2	13, 9-35	1700	Idle
	O. C. Field Gas. Corp., Righetti	2	13, 9-35	2195	Testing
Lompoc	Alphonzo E. Bell Corp., Lompoc	6	28, 8-34		Graded roads
	Fickert Oil Co., Ltd., Well	1	8, 7-33		Rig
Santa Maria	Roy Lee, Trustee, T.G.	1	33, 10-33	3503	Idle
	Ventura County				
Bardsdale	Hopland Oil Co , Well	1	1, 3-19	4634	Idle
	Ventura Southern Oil Co.	G–1	19, 3-19	1761	Drilling
Conejo	Sycamore Oil Co., Boylan	1	23, 1-20	1700	Idle
Ojai	Coates, Spencer D., Pirie	5	7, 4-22	231	Drilling
	Kelalee Pet. Co., Harvey	1	8, 4-21		Rig
	Richfield Oil Corp., Ojai	44	13, 4-22	5607	Drilling
Piru	Delroy Pet. Corp., Fisk Core Hole	1	22, 5-18	102	Drilling
	Pacific Western Oil Co., Temescal	11	4, 4-18	490	Drilling
Sespe	Alford Drlg. & Expl. Co., Goodenough	1	18, 4-19	2581	Idle
	Ivers, H. A., Kentuck	13½	1, 4-20	1190	Drilling
	Highland Drilling Co., Cosby	1	14, 4-19	1925	Drilling
Timber Canyon	Dension, A. T., Denison	1	13, 4-21	1157	Drilling
	Crude Oils, Inc., West	1	19, 4-20	958	Idle
	Henderson-Ortez Oil Co., O'Leary	1	29, 4-20		Rig

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Colusa	Pacific National Pet. Corp.	1	17, 17n-4w	1400	Resuming
Contra Costa	Faria, Joseph Jr., Faria	1	22, 2n-1w		Location
Madera	Blake, T. E., Chuck	1	28, 10s-17e		Rig
	Shell Oil Co., Inc., Chowchilla Farms	6–18	18, 10s-14e	2723	Idle
Monterey	Loma Grande Oil Co., Corey	1	23, 24s-10e	4004	Testing
San Joaquin	Westates Pet. Corp., Spence	1	22, 1s-7e		Location
	Standard Oil Co., West Coast Life	2	4, 1n-5e	4187	Drilling
	Standard Oil Co., Blewett Comm.	3	23, 3s-6e		Rig
Sutter	Buttes Oilfields, Inc., Buttes	7	3, 15n-1e	5010	Idle
	Buttes Oilfields, Inc., Buttes	8	28, 16n-2e	5502	Drilling
Yuba	Wright, L. G., Cox	1	18, 14n-5e	1805	Redrilling

age between 70 and 80 degrees. Five miles west of the Richfield well, Spencer D. Coates is drilling Pirie No. 5 at 240 ft.

In the Piru Creek area, Pacific Western Oil Co. is drilling Temescal No. 11 in sec. 4, 4n-18w below 500 ft. and Delroy Petroleum Corp. has cemented surface casing at 100 ft. in its Core Hole No. 3 in sec. 22, 5n-18w.

The Highland Drilling Co.-Rio Hondo Oil Co. well, Cosby No. 1 in sec. 14, 4-19, is being deepened at 1935 ft. and is the only active project in Hopper Canyon. Along Sespe Creek, W. E. McCaslin is trying to pull the liner from Burson No. 1 and H. A. Ivers is drilling Kentuck No. 13½ at 1200 ft.

At Timber Canyon A. T. Dennison's No. 1 is drilling in sandy shale showing oil at 1160 ft.

Signal Oil Spuds Santa Maria Well

Resuming activity in the Santa Maria Valley field, Signal Oil & Gas Co. spudded in Libeu No. 4 and is now drilling below 1100 ft. The project is located in the southeast corner of the northeast quarter of the northwest quarter of sec. 26, 10n-34w.

The F. Burgdorff Holmes No. 1 in the same section was completed at 5000 ft. pumping approximately 300 bbls. daily from a 190 ft. interval.

The number 13 has proved a jinx for Union Oil Co.'s latest well on the Union Sugar lease where the well of that designation has been trying to recover a string of drill pipe for several weeks. Bottom of the hole is 5150 ft.

Two Ventura Wells Exceed Former Record

The depth record for producing wells at Ventura Avenue was shattered twice within a few days by Tide Water Associated Oil Co. and Shell Oil Co. The former company bottomed McGonigle No. 18 at 11,350 ft., 200 ft. below Lloyd Corp.'s old record holder, and with 635 ft. open, completed flowing 467 bbls. of 29.7 gravity oil cutting 7.0% through a ¾-in. bean. Within a week, however, Shell Oil Co. finished Shell-Lloyd No. A-1 at 11,516 ft. to beat Tide Water Associated by 166 ft. With perforations open at intervals below 10,000 ft. the Shell well came in flowing at a 2000 bbl. rate through a 40/64 in. bean but was soon pinched back through an 8/64 in. orifice to 184 bbls. of 31 gravity clean oil. Both wells were deepening jobs, the Shell project having been originally drilled before the recent northeast flank activity.

Other completions for the month include Shell's Edison No. 39 which, open at intervals from 8800 to bottom at 9760 ft., initialed 500 bbls. cutting 12.0% and Tide Water Associated Oil's V. L. & W. No. 55 which flowed 922 bbls. of clean oil from 10,750 ft.

Next well to go on production will be Alliance Petroleum Corp.'s Hisey No. 5 which has cemented 9⅝ in. casing at 8717 ft.

C. C. M. O. Will Drill 3rd Rincon Test Well

Undaunted by the small yields of Hobson C-3 and C-9, Chanslor-Canfield Midway Oil Co. is planning to drill Hobson C-10 as another deep test of the Rincon field. The new try will be located 1700 ft. south and 1625 ft. west of the northeast corner of sec. 17, 3n-24w.

Northern Notes

Flowing 7,800,000 cu. ft. of gas through a 32/64 in. bean, Standard Oil Co. recently brought in No. 4 on the Perry Anderson property in sec. 2, 3n-2e at Rio Vista. The hole was drilled to 4370 ft. and plugged to 4330 ft. above which is a 136 ft. open interval. In sec. 19, 3n-3e, Amerada Petroleum Corp. resumed drilling N. C. Anderson which was suspended after spudding last December.

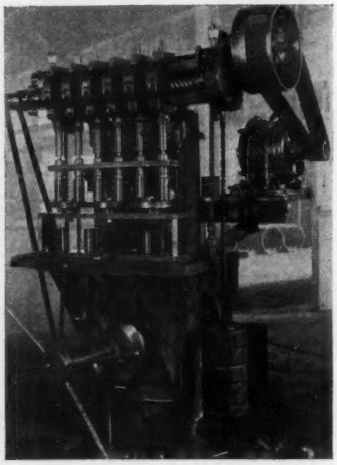
Because of flood conditions, Buttes Oilfields, Inc., No. 7 is standing idle at 5101 ft. A production test was under way when storms rendered the roads impassable. Buttes No. 8 is reported as fishing for a drill collar and bit at 5502 ft.

In the McDonald Island area of San Joaquin county, Standard Oil Co.'s West Coast Life No. 2-1, sec. 4, 1n-5e, is drilling below 4200 ft.

After getting but little encouragement from a production test at 2723 ft., Shell Oil Co. temporarily suspended operations in Chowchilla Farms No. 6-18 in sec. 18, 10s-14e, Madera county.

D+B Automatic Coupling Lapping Machine

Recently introduced by the D+B Division of Emsco Derrick and Equipment Co. is the Automatic Coupling Lapper



shown above. This new machine has been designed to impart a greater degree of accuracy to the faces of Sucker Rod Couplings than has heretofore been possible under ordinary manufacturing methods.

Since lapping is used in all precision assembly processes and since the perfection of the coupling is so important to the efficient, economical operation of the rod string; D+B engineers designed the illustrated machine to get the high degree of accuracy they were after.

Lapping assures perfect smoothness on the coupling faces. It is a guarantee of sucker rod joining security for it brings about a uniformity of contact between the coupling faces and the shoulders on the sucker rod pins. Since the sucker rod joint contacts are made uniform this results in a uniformity of stress in the sucker rod pin which eliminates eccentric loading strain that has, in the past, caused so many pin failures. It also helps prevent unscrewing by developing a friction locking effect. All D+B Sucker Rod couplings are now processed in the Automatic Coupling Lapper.

Wilson Three-Drum Spudder Unit With Four-Leg Telescoping Mast

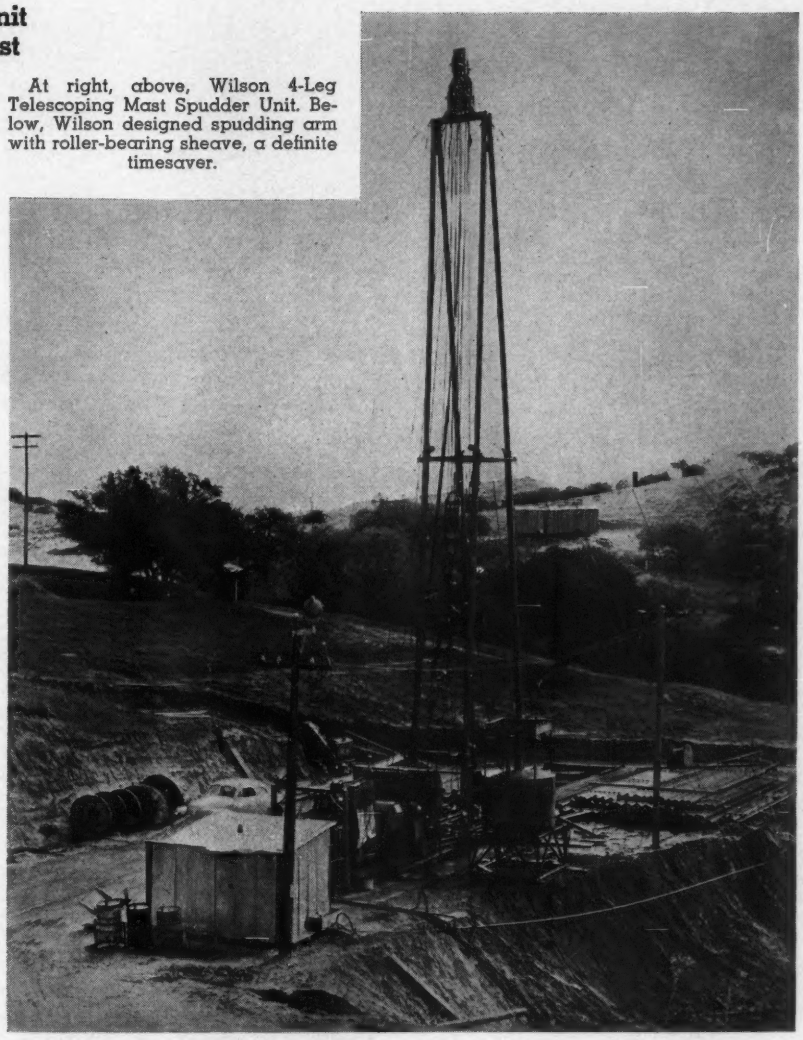
Because the Union Oil Co. of California required a unit capable of handling light and heavy cable tool work as well as regular rotary drilling, the Wilson Manufacturing Co. has built and delivered such a unit which is now in operation in the Orcutt oil fields.

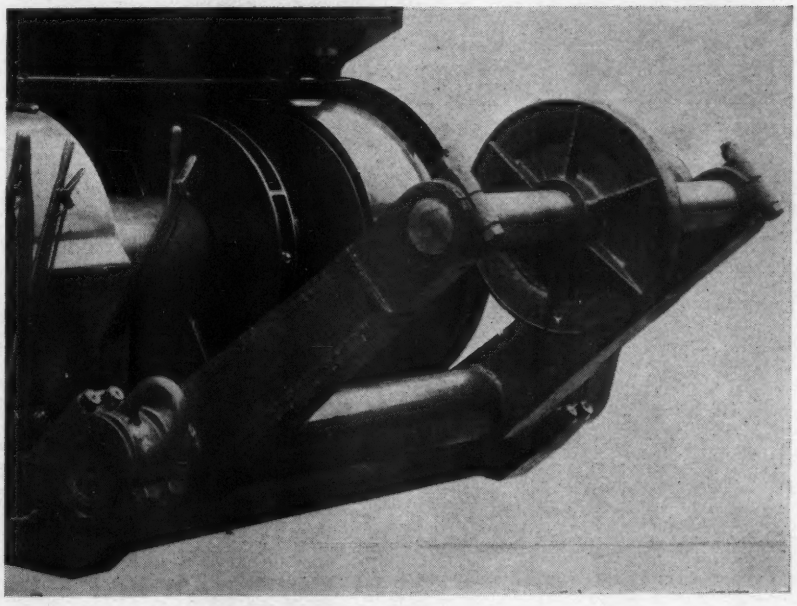
A large amount of drilling line is carried on the lower drum and the casing line is carried on the front upper drum. Both drums are the large "Giant" size and both have a separate drive to each side through Wilson IE friction clutches engaging directly in the water-cooled flanges. Ample sand line capacity is provided by a Wilson friction clutch-operated sand line drum mounted near the upper center of the unit. Spudding motion for the drilling line is obtained by a Wilson-designed spudding arm on which is mounted a roller-bearing sheave and which imparts the motion to the drilling line. By this method, the drillers handling the Wilson rig state that they get a perfect motion while drilling by merely paying out or taking in the drilling line on the drum. This saves a great deal of lost time resulting from the old clamp and temper-screw method. The unit is powered with a large Gas-Butane engine of approximately 230 horsepower.

The rig employs an unique drilling mast of the telescoping type on all four legs and pivoted at the top. When ready to move, the mast folds together, then telescopes. Being pivoted over the draw-works, it can be swung down into a horizontal position over the unit for quick and easy moving to the next location. Telescoping and swinging into a horizontal position or erecting from this position are accomplished by one forked line running over special-built sheaves operated by the unit's power. The mast has a built-in crown block, the lower deck has five 30-inch roller-bearing sheaves and the upper deck two 36-inch roller-bearing sheaves. Large adjusting screws, built into the base on all four legs, provide perfect alignment of the mast.

The same exclusive features which have made Wilson rotary drilling rigs universally satisfactory, such as floating chain transmission, safety inter-locking system between speeds, etc., are all built into this unique rig. The operator can change at will from cable tool work to rotary drilling in a few minutes time. This provides the advantage of faster drilling down to the top of a low-pressure zone, and drilling into this zone with cable tools, thus preventing mudding-off production from such a zone. It also provides the advantages of cable tools in certain types of fishing work. H & B Sales Co., Long Beach, are Pacific Coast distributors for Wilson products.

At right, above, Wilson 4-Leg Telescoping Mast Spudder Unit. Below, Wilson designed spudding arm with roller-bearing sheave, a definite timesaver.

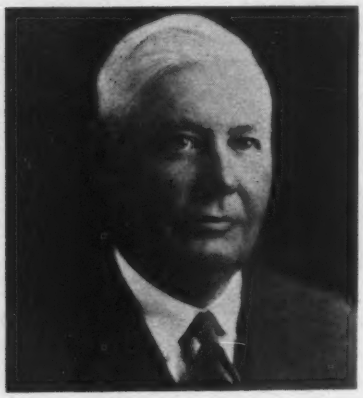




Axelson Celebrates 50 Years of Service

To Petroleum Industry

Fifty years of service to the petroleum industry! Years which have seen greater and greater demands heaped on the oil well suppliers. A half century during which technological improvement has made possible the tapping of new oil sources, the operating of wells more efficiently, and the keeping abreast of skyrocketing oil demand.

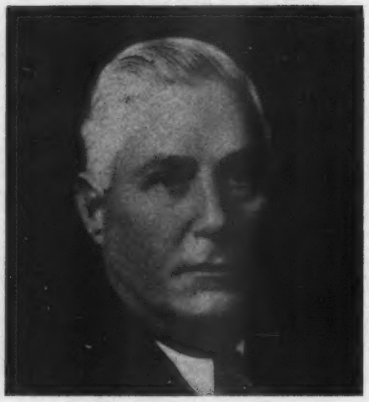


C. F. Axelson

That's the story behind the announcement made in February by J. C. Axelson, president and general manager of the Axelson Manufacturing Co., that the company is this year celebrating its golden anniversary.

As pioneers of a number of design improvements in pumps, sucker rods, and other requisites of the petroleum industry, Axelson possesses a most interesting history. In 1892, on an original capital investment of $1200 scrimped from wages, a small iron works in the then country town of Santa Ana, California, was purchased by two Axelson brothers,—C. F., a machinist; and G. A., a molder.

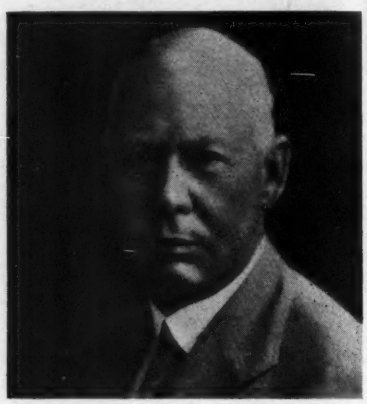
J. C. Axelson



D. F. Axelson

Even to these young Middle Westerners, whose later accomplishments proved their vision, this could hardly have seemed the beginning of a firm which today enjoys a 6 million dollar annual sales volume. Behind the story of Axelson's successful operation lies an idea possessed by the Axelson brothers, C. F. and G. A., from the time they were ten years of age. Both had made up their minds that they were going to have a manufacturing plant, complete with machine shop and foundry and their every move from that point on was made towards this predetermined objective.

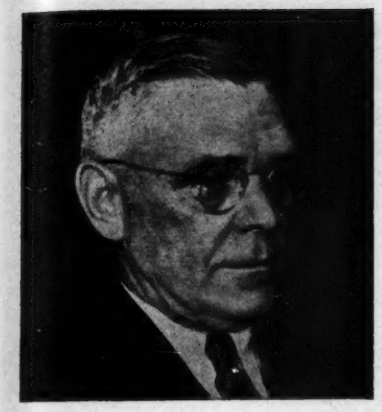
Today the sons of these founders, carrying along the unique research methods and production standards which originally distinguished the Axelsons, are operating a company whose scope of oil field service is literally described in their paraphrased slogan: "The sun never sets on Axelson pumps and sucker rods." And in 1942 the Axelson foundries, machine shops, and assembly lines are supplying American war industry—for the second time—with essential production and maintenance equipment. Developed during the first World War, Axelson's well-established line of machine tools, heavy duty lathes and accessories are under "All-Out" production to supply America's



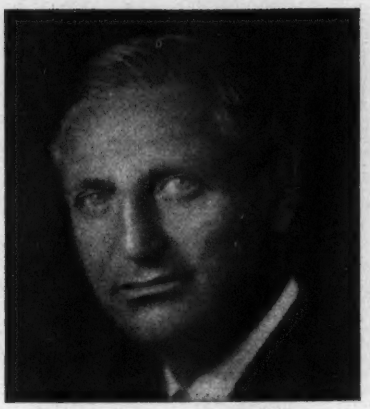
G. A. Axelson

E. E. Kerfoot

Alvin Zwerneman



D. M. Hammett



A. G. Haglund

R. M. Pease

1942 Victory Program. Pumps, sucker rods, gages, and numerous other oil field supplies are essential to our "Keep 'em Pumping" oil program.

Simultaneously, the company this year will produce a large volume of aviation parts for Allied warplanes, according to vice-president (and also "second generation"), D. F. Axelson.

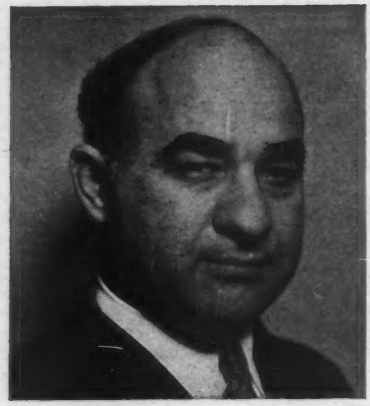
Reviewing the fifty years of development which the above production activities reflect, President J. C. Axelson describes the original brothers as "anything but lazy." Just how conservative "J. C." is putting it may possibly be shown presently. Santa Ana townspeople in the early nineties soon learned that "the Axelson boys" were not without imagination and originality. The shop (then known as Acme Iron Works) early produced a new design of gang plow. Continuing their experiments in an expanded plant in Los Angeles after 1895, the Axelsons produced an automobile engine whose only immediately evident handicap was a marked lameness in the ignition design. Undaunted by their one failure, the boys tackled and solved a wholly foreign problem of designing a press for printing flimsy tissue orange wraps in three colors.

Their success in this and other assignments did not, however, sway the Axelsons from an early interest in oil well pumps. Their initial contribution was the original Parker Pump, first to employ the now standard metal-to-metal principle. By the turn of the century, petroleum engineers in the Far Western oil fields were already beginning to talk about the Axelson-produced pump that could handle their high sand content, heavy gravity oil. Long before the American Petroleum Institute introduced standards of oil well pump manufacture, Axelson established their famous policy of full interchangeability. Axelson pumps were the first to be made so accurate in all parts as to permit the interchangeability of plungers, liners, cages, etc., from one pump to the other. Likewise, Axelson was first to evolve and develop the theory that in production of gray iron castings, uniformity and excellence lay in the control. As a result, laboratory and testing equipment checking the physical and chemical characteristics of all raw material going into Axelson castings came into being and have been steadily improved, year after year.

A few years later, engineers of the again-expanded company developed the "Parker-Improved" sucker rod, which marked the beginning of a succession of sucker rod improvements by Axelson's research staff. In this department, as with pumps, the brothers had established uncompromising standards at the outset. Yet, so well conceived was this new sucker rod that constant experimentation could reveal no major improvements in design and manufacture until 1916, when the one-piece, fully upset sucker rod was introduced. Axelson was the first to fully treat, quench and draw sucker rods and from this operation, at the time considered revolutionary, developed today's practice of fully normalized sucker rods from pin and to pin end.

As an indication of how this department developed, Axelson's present day plants in Los Angeles and St. Louis are capable of producing better than 2,000,000 feet of sucker rods per month.

Another offshoot of the diversified Axelson petroleum industry services was born about the same time as was the "Parker-Improved" sucker rod. With a broader line there was justification for starting the first of their present chain of supply outlets that now serve the important fields of the Far West. These stores are now located at Bakersfield, Taft, Long Beach, Torrance, Huntington Beach, Santa Fe Springs, Orcutt and Ventura. As Axelson's products increased and improved, their scope of operation extended beyond California and came to include not only the Mid-Continent and eastern oil fields of the United States, but those of Poland, Russia, Persia, Dutch East Indies and South America. By 1925 Axelson interchangeable pumps and sucker rods were in use in every producing oil field throughout the world. In the Mid-Continent and eastern areas, Axelson is represented by Frick-Reid Supply Co., as well as Great Northern Tool &



V. Mancuso

Supply Co. These two well-known concerns, together make Axelson products accessible through over 75 field supply stores. Indicative of their progressive attitude, however, is their policy of maintaining their own selling organization, consisting of over 24 factory representatives and sales engineers who are in a position to give Axelson service wherever Axelson products are sold. Before the present war cut off the exporting of production equipment to foreign oil fields to a major degree, Axelson's representatives were located in London, Bucharest, Bali Papen, Maracaibo, Buenos Aires and other points around the globe.

Perhaps applying the theory that "one good turn deserves another," lathes were produced by Axelson, beginning about a quarter-century ago. The highly regarded heavy duty Axelson Lathe is today an important part of the company's product lineup.

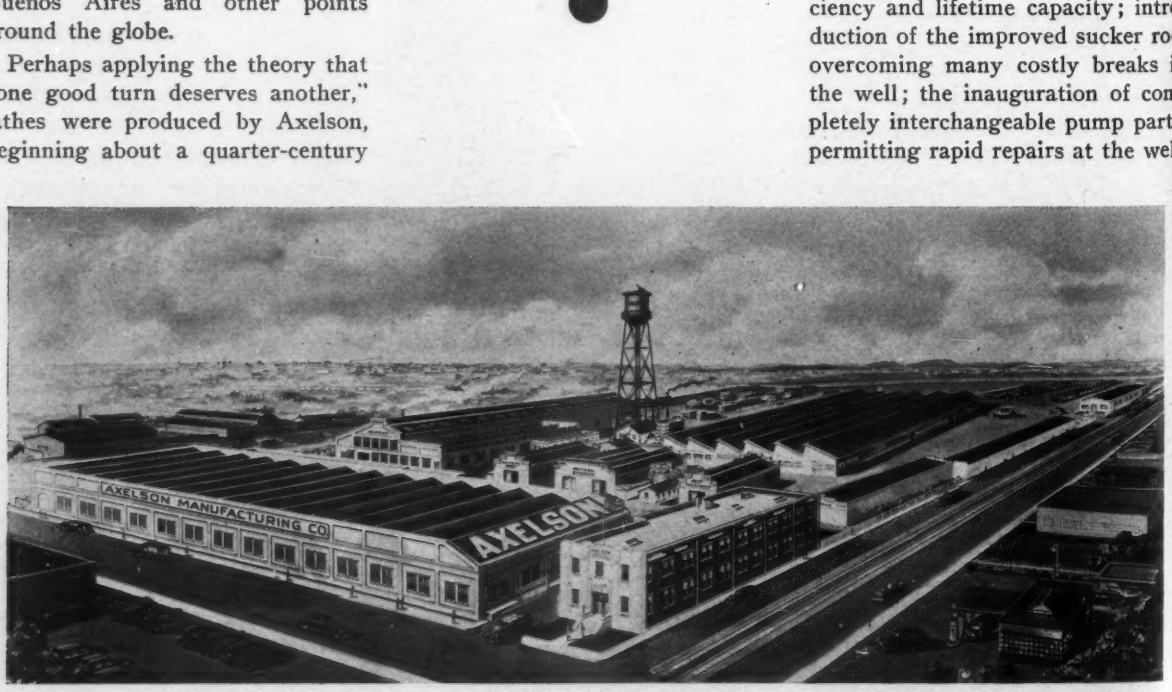
The old adage about the world wearing a path to your door if you build a better mousetrap (or gage!) was proved years ago when other manufacturers started demanding to purchase the precision gages which Axelson engineers developed from time to time. These gages and specially designed precision machinery were all developed in the interests of absolute accuracy in the manufacture of interchangeable pump parts, including plungers, seats and balls, and other fittings. As the demand for gages became more and more persistent, Axelson gradually developed a gage sales division. Axelson Gages rank with the highest in regular tests of the Bureau of Standards in Washington.

Incorporated with a capital of

L. E. Hogsett

$500,000 in 1919, the Axelson destinies were directed by a board consisting of the four Axelsons, of whom two were the founders and two the present top executives already mentioned. In 1927, the name of E. E. Kerfoot, assistant general manager and treasurer, was added to the board.

In reviewing the fifty year span of Axelson's existence, most oil field men would vote as their most important contributions to the industry one or more of the following: development and improvement of the metal-to-metal pump principle, greatly increasing pump efficiency and lifetime capacity; introduction of the improved sucker rod, overcoming many costly breaks in the well; the inauguration of completely interchangeable pump parts, permitting rapid repairs at the well.



Los Angeles Plant

Pacific Pump Elects Elmer J. Weis V. P.

According to an announcement by J. B. O'Connor, chairman of the board of Pacific Pump Works, Elmer J. Weis, former Aircraft Parts manager, has been elevated to the vice-presidency of the company.

Because of the need for top-ranking

E. J. Weis

engineers at this time, according to Mr. O'Connor, Mr. Weis will retain an active interest in the company's engineering developments, in addition to handling his new responsibilities.

Mr. Weis originated, and up to the present time, has been responsible for the operation and supervision of the company's aviation hydraulic actuating assemblies division. He has performed a noteworthy and timely job of supplying the aviation industry with vital hydraulic assemblies.

However, for the past several years, he has also been identified with many engineering improvements in Pacific Pump Works' complete line centrifugal pumps for municipal, industrial, refinery, pipe line and hot oil service; deep well centrifugal turbines and deep well oil pumps.

Vice-president Weis has been with Pacific Pump Works since its organization in 1923.

John Young Enters United States Army

The petroleum industry gives up another of its members to the U. S. Army with the entrance of John C. Young into the Los Angeles office of the Ordnance Dept. as a first-lieutenant. Since 1939 Mr. Young has worked in the office of the Conservation Committee of California Oil Operators where he was in charge of the depth pressure work which derived well potentials from their bottom hole pressures.

An American Chinese, Mr. Young was born in San Jose, California. In 1935 he graduated from Stanford University with a Bachelor of Arts degree, and in 1937 an engineering degree was conferred upon him by the same school. While at Stanford he was active in the Reserve Officers Training Corps.

Before entering the umpire's office, Mr. Young was employed for two years in the production technology laboratory of the Standard Oil Co. He is married and has two children.

New G. E. Rotating-Type Limit Switches

The General Electric Co. has announced the addition of two new forms to its line of CR9441-C2 rotating-type limit switches. One form is for Class 1, Group D hazardous gas locations and the other is for applications requiring water-tighteners. The new switches are both housed in heavy, flanged, cast-iron enclosures.

The mechanism of the switch is adjusted to operate the contacts between a minimum of one-turn of the driving shaft and a maximum of 120 turns. Indefinite overtravel will not harm the switch mechanism.

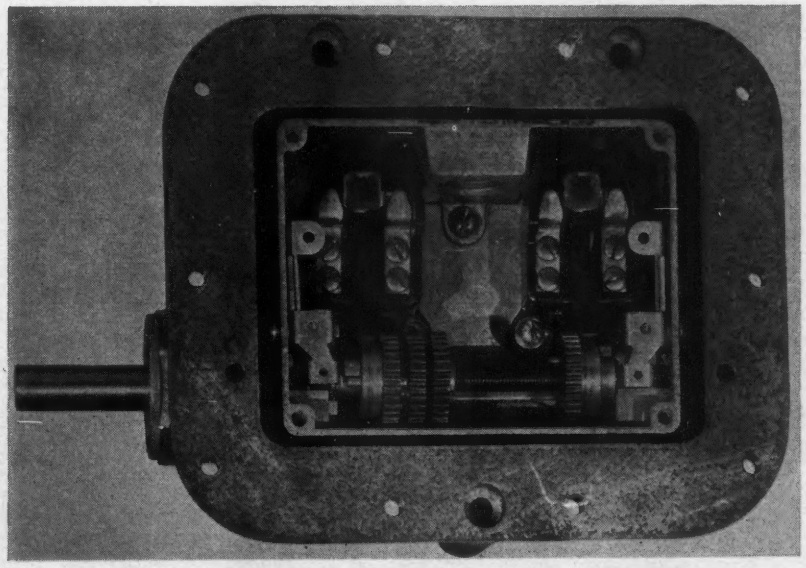
Double-break, fine-silver contacts clean themselves by opening and closing with a rocking motion. New contact tips can be installed with a screwdriver.

One double-break contact is located at each end of the travel, and can be made normally closed or normally open without additional parts. A large (¾-inch) conduit entrance and roomy box make for rapid and easy wiring.

Industrial Engineering Co. Administrative Changes

Announcement is made of a change in the administrative organization of Industrial Engineering Co., manufacturers of Somastic Pipe Coating. H. C. Price, Bartlesville, is president; W. W. Colley, Houston, vice-president and general manager; K. H. Dyer, Wilmington, Calif., Pacific Coast manager. Other officers are S. D. Bechtel, San Francisco, chairman of the board; K. K. Bechtel, San Francisco, vice president and treasurer; W. E. Waste, Los Angeles, secretary. Directors are Henry J. Kaiser and G. G. Sherwood, both of Oakland, in addition to the principal officers. Offices are maintained at Houston, Wilmington, Bartlesville, and San Francisco. Central plants are operated at Houston and Wilmington.

Harold C. Price is the head of the well-known pipe line welding organization of H. C. Price Co., with headquarters at Bartlesville, Okla. W. W. Colley has been associated with the Industrial Engineering Co. for many years, both in California and Texas. K. H. Dyer was associated with Industrial Engineering Co. in its early days. S. D. Bechtel and K. K. Bechtel are executives of W. A. Bechtel Co., engineers and contractors, of San Francisco. W. E. Waste is administrative manager of the California Shipbuilding Corp., Wilmington, Calif. H. J. Kaiser and G. G. Sherwood are of the Henry J. Kaiser Co., Oakland.



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Oil Men's Calendar

Calif. Natural Gasoline Association. Los Angeles Chapter—Meets 1st Thursday Each Month, Barker Bros. Bldg., Los Angeles—Dinner at 6:00 (Optional). Taft Chapter—Meets Third Thursday Each Month.

American Society of Mechanical Engineers—Los Angeles Section—Meets 2nd Thursday Each Month—Barker Bros. Bldg., Los Angeles. Dinner at 6:30 (Optional).

March

2-5—American Society for Testing Materials, Committee Week & Spring Meeting, Cleveland, Ohio.

10—AMERICAN PETROLEUM INSTITUTE, Division of Production, Pacific Coast District, Spring Meeting, Biltmore Hotel, Los Angeles, Calif.

23-25—American Society of Mechanical Engineers, Spring Meeting, Houston, Tex.

23-25 — Western Petroleum Refiners Assn., 30th Annual Meeting, St. Charles Hotel, New Orleans, La.

26-27 — AMERICAN PETROLEUM INSTITUTE, Division of Production, Mid-Continent District, Spring Meeting, Mayo Hotel, Tulsa, Okla.

15-17—American Institute of Mining & Metallurgical Engineers, Cincinnati, Ohio.

16-17—National Petroleum Assn., 39th Semi-Annual Meeting, Hotel Cleveland, Cleveland, Ohio.

21-24—American Association of Petroleum Geologists, 27th Annual Meeting, Cosmopolitan Hotel, Denver, Colo.

May

11-13—American Institute of Chemical Engineers, Boston, Mass.

13-15—Natural Gasoline Assn. of America, Mayo Hotel, Tulsa, Okla.

25-28—National Association of Purchasing Agents (Oil Company Buyers' Group), Waldorf-Astoria Hotel, New York.

25-28 — AMERICAN PETROLEUM INSTITUTE, 12th Mid-Year Meeting, Oklahoma Biltmore Hotel, Oklahoma City, Okla.

Patterson-Ballagh Improved Rotary Mud Gun

As an improvement of their safety mud gun, engineers of Patterson-Ballagh Corporation have added a safety latch and have streamlined the flow of mud through the gun to eliminate an abrupt curve. The improved gun has a long swing ell and its main casting is of heavy steel. A locking ring provides for vertical adjustments. A new spring latch permits horizontal locking without the necessity of unbolting. This gun can be equipped with an extended pipe and a rubber nozzle. Details may be obtained from Patterson-Ballagh Corporation.